



The Victoria History of the
Counties of England

EDITED BY H. ARTHUR DOUBLEDAY
AND WILLIAM PAGE F.S.A.

A HISTORY OF
WARWICKSHIRE

VOLUME I

A HISTORY OF WARWICKSHIRE
IN FOUR VOLUMES EDITED
BY H. ARTHUR DOUBLEDAY
AND WILLIAM PAGE F.S.A.

THE
VICTORIA HISTORY
OF THE COUNTIES
OF ENGLAND
WARWICKSHIRE



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INSCRIBED
TO THE MEMORY OF
HER LATE MAJESTY
QUEEN VICTORIA
WHO GRACIOUSLY GAVE
THE TITLE TO AND
ACCEPTED THE
DEDICATION OF
THIS HISTORY

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GENERAL ADVERTISEMENT

The VICTORIA HISTORY of the Counties of England is a National Historic Survey, which, under the direction of a large staff comprising the foremost students in science, history, and archæology, is designed to record the history of every county of England in detail. This work was, by gracious permission, dedicated to Her late Majesty Queen Victoria, who gave it her own name. It is the endeavour of all who are associated with the undertaking to make it a worthy and permanent monument to her memory.

Rich as every county of England is in materials for local history, there has hitherto been no attempt made to bring all these materials together into a coherent form.

Although from the seventeenth century down to quite recent times numerous county histories have been issued, they are very unequal in merit; the best of them are very rare and costly; most of them are imperfect and all are now out of date. Moreover they were the work of one or two isolated scholars, who, however able, could not possibly deal adequately with all the varied subjects which go to the making of a county history.

In the VICTORIA HISTORY each county is not the labour of one or two men, but of several hundred, for the work is treated scientifically, and in order to embody in it all that modern scholarship can contribute, a system of co-operation between experts and local students is applied, whereby the history acquires a completeness and definite authority hitherto lacking in similar undertakings.

THE SCOPE OF THE WORK

The history of each county will be complete in itself, and its story will be told from the earliest times, commencing with the natural features and the flora and fauna. Thereafter will follow the antiquities, pre-Roman, Roman and post-Roman; a new translation and critical study of the Domesday Survey; articles on political, ecclesiastical, social and economic history; architecture, arts, industries, biography, folk-lore and sport. The greater part of each history will be devoted to a detailed description and history of each parish, containing an account of the land and its owners from the Conquest to the present day. These manorial histories will be compiled from original documents in the national collections and from private papers. A special feature will be the wealth of illustrations afforded, for not only will all buildings of interest be pictured, but the coats of arms of past and present landowners will be given.

HISTORICAL RESEARCH

It has always been, and still is, a reproach to us that England, with a collection of public records greatly exceeding in extent and interest those of any other country in Europe, is yet far behind her neighbours in the study of the genesis and growth of her national and local institutions. Few Englishmen are probably aware that the national and local archives contain for a period of 800 years in an almost unbroken chain of evidence, 'not only the political, ecclesiastical, and constitutional history of the kingdom, but every detail of its financial and social progress and the history of the land and its successive owners from generation to generation.' The neglect of our public and local records is no doubt largely due to the fact that their interest and value is known to but a small number of people. But this again is directly attributable to the absence in this country of any endowment for historical research such as is to be found among other cultured nations. The government of this country has always left to private enterprise work which our continental neighbours entrust to a government department. It is not surprising, therefore, to find that although an immense amount of work has been done by individual effort, the entire absence of organization among the workers and the lack of intelligent direction has robbed the results of much of their value.

In the VICTORIA HISTORY, for the first time, a serious attempt is made to utilize our national and local muniments to the best advantage by carefully organizing and supervising the researches required. Under the direction of the Records Committee a large staff of experts is engaged at the Public Record Office in calendaring those classes of records which are most fruitful in material for local history, and by a system of interchange of communication among local editors each county gains a mass of information which otherwise would be lost.

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Many archæological, historical and other societies are assisting in the compilation of this work; and local supervision and aid are secured by the formation in each county of a County Committee, the president of which is in nearly all cases the Lord Lieutenant.

The names of the distinguished men who have joined the Advisory Council are a guarantee that the work will represent the results of the latest discoveries in every department of research. It will be observed that among them are representatives of science; for the whole trend of modern thought, as influenced by the theory of evolution, favours the intelligent study of the past, and of the social, institutional and political developments of national life. As these histories are the first in which this object has been kept in view, and modern principles applied, it is hoped that they will form a work of reference no less indispensable to the student than welcome to the man of culture.

Family History will, both in the Histories and in the supplemental volumes of chart pedigrees, be dealt with by genealogical experts and in the modern spirit. Every effort will be made to secure accuracy of statement, and to avoid the insertion of those legendary pedigrees which have in the past brought discredit on the whole subject. It has been pointed out by the late Bishop of Oxford, a great master of historical research, that 'the expansion and extension of genealogical study is a very remarkable feature of our own times,' that 'it is an increasing pursuit both in America and England,' and that it can render the historian useful service.

Heraldry will also in this Series occupy a prominent position, and the splendours of the coat-armour borne in the Middle Ages will be illustrated in colours on a scale that has never been attempted before.

The general plan of Contents, and the names of the Sectional Editors (who will co-operate with local workers in every case) are as follows :—

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Folklore

Physical Types

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Domesday Book and other kindred Records. Edited by J. HORACE ROUND, M.A.

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Indexes

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Among the many thousands of subjects illustrated will be castles, cathedrals and churches, mansions and manor houses, moot halls and market halls, family portraits, etc. Particular attention will be given to the beautiful and quaint examples of architecture which, through decay or from other causes, are in danger of disappearing. The best examples of church brasses, coloured glass, and monumental effigies will be depicted. The Series will also contain 160 pictures in photogravure, showing the characteristic scenery of the counties.

CARTOGRAPHY

Each History will contain Archæological, Domesday, and Geological maps ; maps showing the Orography, and the Parliamentary and Ecclesiastical divisions ; and the map done by Speed in 1610. The Series will contain about four hundred maps in all.

FAMILY HISTORY AND HERALDRY

The Histories will contain, in the Topographical Section, manorial pedigrees, and accounts of the noble and gentle families connected with the local history ; and it is proposed to trace, wherever possible, their descendants in the Colonies and the United States of America. The Editors will be glad to receive information which may be of service to them in this branch of the work. The chart family pedigrees and the arms of the families mentioned in the Heralds' Visitations will be issued in a supplemental volume for each county.

The Rolls of Arms are being completely collated for this work, and all the feudal coats will be given in colours. The arms of the local families will also be represented in connection with the Topographical Section.

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The issue of this work is limited to subscribers only, whose names will be printed at the end of each History.



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THE
VICTORIA HISTORY
OF THE COUNTY OF
WARWICK

VOLUME ONE



JAMES STREET

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CONTENTS OF VOLUME ONE

	PAGE
Dedication	v
The Advisory Council of the Victoria History	vii
General Advertisement	vii
The Warwickshire County Committee	xiii
Contents	xv
List of Illustrations	xvii
Preface	xix
Table of Abbreviations	xx
Natural History	
Geology By T. C. CANTRILL	1
Palæontology By RICHARD LYDEKKER, F.R.S.	29
Botany By J. E. BAGNALL, A.L.S.	33
Zoology	
Mollusca (<i>Snails, etc.</i>) By B. B. WOODWARD, F.G.S., F.R.M.S.	67
Insecta (<i>Insects</i>) Edited by COLBRAN J. WAINWRIGHT, F.E.S.	69
Odonata By R. C. BRADLEY and COLBRAN J. WAINWRIGHT, F.E.S.	73
Hymenoptera (<i>Bees, etc.</i>) By A. H. MARTINEAU, F.E.S.	73
Coleoptera (<i>Beetles</i>) By H. WILLOUGHBY ELLIS, F.E.S.	77
Lepidoptera (<i>Moths</i>). By COLBRAN J. WAINWRIGHT, F.E.S.	124
Diptera (<i>Flies</i>) " " "	158
Hemiptera Heteroptera (<i>Bugs, etc.</i>) By H. WILLOUGHBY ELLIS, F.E.S.	165
Arachnida (<i>Spiders</i>) By F. O. PICKARD-CAMBRIDGE, M.A.	167
Crustacea (<i>Crabs, etc.</i>) By the Rev. T. R. R. STEBBING, M.A., F.R.S., F.L.S.	171
Pisces (<i>Fishes</i>) By R. F. TOMES, F.G.S., Corr. Mem. Z.S.	184
Reptilia (<i>Reptiles</i>) and Batrachia (<i>Batrachians</i>) " " "	187
Aves (<i>Birds</i>) " " "	189
Mammalia (<i>Mammals</i>) " " "	208
Early Man By GEORGE CLINCH, F.G.S.	213
Romano-British Remains By F. HAVERFIELD, M.A., F.S.A.	223
Anglo-Saxon Remains By REGINALD A. SMITH, B.A., F.S.A.	251
Introduction to the Warwickshire	
Domesday By J. HORACE ROUND, M.A.	269
Text of the Warwickshire Domesday By W. F. CARTER, B.A.	299
Ancient Earthworks By WILLOUGHBY GARDNER, F.L.S.	345
Index to the Warwickshire Domesday	407

LIST OF ILLUSTRATIONS

	PAGE
Warwick Castle. By WILLIAM HYDE	<i>frontispiece</i>
Palæolithic Implement from Saltley	
Perforated Hammerstone from Sutton Coldfield }	<i>full-page plate, facing</i> 214
Bronze Dagger from New Bilton	
Celt of White Flint found at Long Compton	216
Pottery found in a barrow near Oldbury Camp	219
" " " " at Brandon	219
Bronze Discs from Chesterton-on-Fossway	220
Late Celtic Ornament illustrating the 'returning spiral'	225
Romano-British Pottery (Rugby School Museum)	<i>full-page plate, facing</i> 230
Plan of Manduessedum and surroundings	233
" " Chesterton Camp	235
Fragment of Romano-British Sculpture (Alcester Rectory)	<i>full-page plate, facing</i> 236
Cinerary Urn, Cestersover (Churchover)	253
Jewel found near Rugby	254
Cinerary Urn, Brinklow	256
Anglo-Saxon Remains from Warwickshire	<i>coloured plate, facing</i> 258
Ancient Earthworks—	
Beaudesert	356
Beausale	357
Brailes	358
Brandon	359
Brinklow	360
Brownsover	363
Castle Bromwich	365
Chesterton	367
Churchover	368
Claverdon	369
Corley	371
Coughton	372
Edgbaston	373
Fillongley	375
Hartshill	376
Ilmington	377
Ipsley	378
Kenilworth	380
Kineton	383
Ladbroke	383
Lapworth	385

LIST OF ILLUSTRATIONS

Ancient Earthworks (*continued*)—

	PAGE
Loxley	387
Mancetter	387
Ratley	389
Seckington	391
Sheldon	392
Solihull, Bury Mound	393
Solihull, Hob's Moat	395
Tachbrook	396
Tanworth	399
Wappenbury	401
Warwick	403
Wolford, Great	405

LIST OF MAPS

Geological Map	<i>between</i> xxiv, 1
Orographical Map	,, 24, 25
Botanical Map	,, 32, 33
Pre-Historical Map	,, 212, 213
Romano-British Map	,, 222, 223
Anglo-Saxon Map	,, 250, 251
Domesday Map	,, 298, 299
Earthworks Map	<i>facing</i> 345

P R E F A C E

WARWICKSHIRE enjoys the distinction of being the first county whose antiquities formed the subject of an exhaustive County History. Although Stow with his *Survey of London* and Norden with his design for a complete series of county histories, and a few others, were Sir William Dugdale's predecessors by half a century, their work is not quite on the same plane with the latter's *Antiquities of Warwickshire*, which saw the light in 1656. On this publication was brought to bear not only the intimate local knowledge of a native of the county, but the genius and industry which made its author perhaps the greatest antiquary England has produced.

Although it is possible after a lapse of two and a half centuries to supplement and correct Dugdale's work, it will be evident from the frequent references to him in these pages how much the modern historian is indebted to his predecessor's researches.

The present undertaking differs in many respects from Dugdale's history, and for details as to its scope the reader is referred to the General Advertisement on p. vii.

The Editors have to thank the Rev. J. Harvey Bloom for reading the proofs of some of the articles in this volume and for his courtesy and assistance in various directions. They are also under special obligations to Mr. Benjamin Walker, A.R.I.B.A., for compiling the Domesday map, and for many useful suggestions made by him in the course of reading the proofs of the text of the Survey. For the use of some of the illustrations in this volume the editors are indebted to Sir John Evans, K.C.B., and the Society of Antiquaries.

TABLE OF ABBREVIATIONS

Abbrev. Plac. (Rec. Com.)	Abbreviatio Placitorum (Record Commission)	Chas.	Charles
Acts of P.C. . . .	Acts of Privy Council	Ches.	Cheshire
Add.	Additional	Chest.	Chester
Add. Chart. . . .	Additional Charters	Ch. Gds. (Exch. K.R.)	Church Goods (Exchequer King's Remembrancer)
Admir.	Admiralty	Chich.	Chichester
Agarde	Agarde's Indices	Chron.	Chronicle, Chronica, etc.
Anct. Corresp. . .	Ancient Correspondence	Close	Close Roll
Anct. D. (P.R.O.)	Ancient Deeds (Public Record Office) A 2420	Co.	County
Antiq.	Antiquarian or Antiquaries	Colch.	Colchester
App.	Appendix	Coll.	Collections
Arch.	Archæologia or Archæological	Com.	Commission
Arch. Cant. . . .	Archæologia Cantiana	Com. Pleas . . .	Common Pleas
Archd. Rec. . . .	Archdeacon's Records	Conf. R.	Confirmation Rolls
Archit.	Architectural	Co. Plac.	County Placita
Assize R.	Assize Rolls	Cornw.	Cornwall
Aud. Off.	Audit Office	Corp.	Corporation
Aug. Off.	Augmentation Office	Cott.	Cotton or Cottonian
Ayloffe	Ayloffe's Calendars	Ct. R.	Court Rolls
		Ct. of Wards . .	Court of Wards
		Cumb.	Cumberland
		Cur. Reg. . . .	Curia Regis
Bed.	Bedford	D. and C.	Dean and Chapter
Beds.	Bedfordshire	De Banc. R. . . .	De Banco Rolls
Berks	Berkshire	Dec. and Ord. . .	Decrees and Orders
Bdle.	Bundle	Dep. Keeper's Rep.	Deputy Keeper's Reports
B.M.	British Museum	Derb.	Derbyshire or Derby
Bodl. Lib.	Bodley's Library	Devon	Devonshire
Boro.	Borough	Doc.	Documents
Brev. Reg.	Brevia Regia	Dods. MSS. . . .	Dodsworth MSS.
Brit.	Britain, British, Britannia, etc.	Dom. Bk.	Domesday Book
Buck.	Buckingham	Dors.	Dorsetshire
Bucks	Buckinghamshire	Duchy of Lanc. .	Duchy of Lancaster
		Dur.	Durham
Cal.	Calendar	East.	Easter Term
Camb.	Cambridgeshire or Cambridge	Eccl.	Ecclesiastical
Cambr.	Cambria, Cambrian, Cambrensis, etc.	Eccl. Com.	Ecclesiastical Commission
Cant.	Canterbury	Edw.	Edward
Cap.	Chapter	Eliz.	Elizabeth
Carl.	Carlisle	Engl.	England or English
Cart. Antiq. R. . .	Cartæ Antiquæ Rolls	Engl. Hist. Rev. .	English Historical Review
C.C.C. Camb. . . .	Corpus Christi College, Cambridge	Epis. Reg.	Episcopal Registers
Certiorari Bdles. (Rolls Chap.)	Certiorari Bundles (Rolls Chapel)	Esch. Enr. Accts. .	Escheators Enrolled Accounts
Chan. Enr. Decree R.	Chancery Enrolled Decree Rolls	Excerptæ e Rot. Fin. (Rec. Com.)	Excerpta e Rotulis Finium (Record Commission)
Chan. Proc. . . .	Chancery Proceedings	Exch. Dep.	Exchequer Depositions
Chant. Cert. . . .	Chantry Certificates (or Certificates of Colleges and Chantries)	Exch. K.B.	Exchequer King's Bench
Chap. Ho.	Chapter House	Exch. K.R.	Exchequer King's Remembrancer
Charity Inq. . . .	Charity Inquisitions	Exch. L.T.R. . . .	Exchequer Lord Treasurer's Remembrancer
Chart. R. 20 Hen. III. pt. i. No. 10	Charter Roll, 20 Henry III. part i. Number 10	Exch. of Pleas, Plea R.	Exchequer of Pleas, Plea Roll
Chartul.	Chartulary	Exch. of Receipt .	Exchequer of Receipt

TABLE OF ABBREVIATIONS

Exch. Spec. Com.	Exchequer Special Commis- sions	Misc. Bks. (Exch. K.R., Exch. T.R. or Aug. Off.)	Miscellaneous Book (Ex- chequer King's Remem- brancer, Exchequer Trea- sury of Receipt or Aug- mentation Office)
Feet of F. . . .	Feet of Fines	Mon.	Monastery, Monasticon
Feod. Accts. (Ct. of Wards)	Feodaries Accounts (Court of Wards)	Monm.	Monmouth
Feod. Surv. (Ct. of Wards)	Feodaries Surveys (Court of Wards)	Mun.	Muniments or Munimenta
Feud. Aids . . .	Feudal Aids	Mus.	Museum
fol.	Folio		
Foreign R. . . .	Foreign Rolls	N. and Q. . . .	Notes and Queries
Forest Proc. . .	Forest Proceedings	Norf.	Norfolk
		Northampt. . .	Northampton
Gen.	Genealogical, Genealogica, etc.	Northants . . .	Northamptonshire
Geo.	George	Northumb. . . .	Northumberland
Glouc.	Gloucestershire or Gloucester	Norw.	Norwich
Guild Certif. (Chan.) Ric. II.	Guild Certificates (Chancery) Richard II.	Nott.	Nottinghamshire or Notting- ham
		N.S.	New Style
Hants	Hampshire	Off.	Office
Harl.	Harley or Harleian	Orig. R.	Originalia Rolls
Hen.	Henry	Oxf.	Oxfordshire or Oxford
Heref.	Herefordshire or Hereford		
Hertf.	Hertford	p.	Page
Herts	Hertfordshire	Palmer's Ind. . .	Palmer's Indices
Hil.	Hilary Term	Pal. of Chest. . .	Palatinate of Chester
Hist.	History, Historical, Historian, Historia, etc.	Pal. of Dur. . . .	Palatinate of Durham
Hist. MSS. Com.	Historical MSS. Commission	Pal. of Lanc. . . .	Palatinate of Lancaster
Hosp.	Hospital	Par.	Parish, Parochial, etc.
Hund. R.	Hundred Rolls	Parl.	Parliament or Parliamentary
Hunt.	Huntingdon	Parl. R.	Parliament Rolls
Hunts	Huntingdonshire	Parl. Surv.	Parliamentary Surveys
		Partic. for Gts. .	Particulars for Grants
Inq. a.q.d. . . .	Inquisitions ad quod dam- num	Pat.	Patent Roll or Letters Patent
Inq. p.m.	Inquisitions post mortem	P.C.C.	Prerogative Court of Canter- bury
Inst.	Institute or Institution	Peterb.	Peterborough
Invent.	Inventory or Inventories	Phil.	Philip
Ips.	Ipswich	Pipe R.	Pipe Roll
Itin.	Itinerary	Plea R.	Plea Rolls
		Pope Nich. Tax. (Rec. Com.)	Pope Nicholas' Taxation (Re- cord Commission)
Jas.	James	P.R.O.	Public Record Office
Journ.	Journal	Proc.	Proceedings
		Proc. Soc. Antiq. .	Proceedings of the Society of Antiquaries
Lamb. Lib. . . .	Lambeth Library	pt.	Part
Lanc.	Lancashire or Lancaster	Pub.	Publications
L. and P. Hen. VIII.	Letters and Papers, Hen. VIII.		
Lansd.	Lansdowne	R.	Roll
Ld. Rev. Rec. . .	Land Revenue Records	Rec.	Records
Leic.	Leicestershire or Leicester	Recov. R.	Recovery Rolls
Le Neve's Ind. .	Le Neve's Indices	Rentals and Surv. .	Rentals and Surveys
Lib.	Library	Rep.	Report
Lich.	Lichfield	Rev.	Review
Linc.	Lincolnshire or Lincoln	Ric.	Richard
Lond.	London	Roff.	Rochester diocese
		Rot. Cur. Reg. . .	Rotuli Curia Regis
m.	Membrane	Rut.	Rutland
Mem.	Memorials		
Memo. R.	Memoranda Rolls	Sarum	Salisbury diocese
Mich.	Michaelmas Term	Ser.	Series
Midd.	Middlesex	Sess. R.	Sessions Rolls
Mins. Accts. . .	Ministers' Accounts	Shrews.	Shrewsbury

TABLE OF ABBREVIATIONS

Shrops	Shropshire	Transl.	Translation
Soc.	Society	Treas.	Treasury or Treasurer
Soc. Antiq.	Society of Antiquaries	Trin.	Trinity Term
Somers.	Somerset		
Somers. Ho.	Somerset House	Univ.	University
S.P. Dom.	State Papers Domestic		
Staff.	Staffordshire	Valor Eccl. (Rec.	Valor Ecclesiasticus (Record
Star Chamb. Proc.	Star Chamber Proceedings	Com.)	Commission)
Stat.	Statute	Vet. Mon.	Vetusta Monumenta
Steph.	Stephen	V.C.H.	Victoria County History
Subs. R.	Subsidy Rolls	Vic.	Victoria
Suff.	Suffolk	vol.	Volume
Surr.	Surrey		
Suss.	Sussex	Warw.	Warwickshire or Warwick
Surv. of Ch. Liv-	Surveys of Church Livings	Westm.	Westminster
ings (Lamb.) or	(Lambeth) or (Chancery)	Will.	William
(Chan.)		Wilts	Wiltshire
		Winton.	Winchester diocese
Topog.	Topography or Topographi-	Worc.	Worcestershire or Worcester
	cal		
Trans.	Transactions	Yorks	Yorkshire

A HISTORY OF
WARWICKSHIRE



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GEOLOGY

THE beginnings of the history of our county are to be found written on the stony tablets of the rocks, in records by the side of which the Saxon chronicle, the Roman epitaph, are nothing but the closing passages of a many-chaptered story.

Through a study of the various operations by which to-day the materials of the land are everywhere being worn down, carried away by streams, and redeposited in seas and lakes as beds of gravel, as sandbanks, or as mudflats, it is possible in some measure not only to realize the physical conditions which prevailed in our district in those far-off ages, but also to people again those ancient waters with their shelly denizens, and to form some idea of the animal and vegetable inhabitants of those long since vanished lands.

For the beds of sandstone, clay, and limestone which make up the bulk of our Warwickshire rocks are comparable in all respects with accumulations forming at the present day ; they were for the most part laid down in estuaries, seas and lakes ; and many of the inhabitants of the waters, and not a few of the animals, insects, and plants from the adjacent land became entombed in the gathering sediments. In the course of ages these areas of deposition by slow upheaval have been more than once converted into land ; and it is clear that these new lands would consist of layers of hardened sediments (‘ stratified ’ rocks), and that the entombed organic remains would be the ‘ fossils ’ of succeeding times. And so long as any particular part of our area stood up as a land-tract above the waters, there the continuity of deposit would be broken ; certain beds would be missing. Subsequent submergence of the whole area would result in the burying of everything under newer sheets of sediment which, while resting unconformably on the worn-down ruins of the old land-mass, would have a closer parallelism to the deposits immediately preceding themselves. In the sequel we shall meet with several instances of these great gaps in the geological succession.

Further, by a knowledge of the physical and climatic conditions specially favourable to certain forms of life of to-day, we arrive at some idea of the state of things prevalent in our area during the formation of many of these fossiliferous rocks, and can distinguish marine from lacustrine deposits, and deep-water formations from those laid down along a shore. As we examine in succession the ascending series of sediments it is found too that there has been a steady change in

A HISTORY OF WARWICKSHIRE

the character of the dominant faunas and floras ; whole groups of animals and plants once abundant in our district now occupy a very subordinate position or are even extinct in Britain, and indeed in many cases have entirely ceased to exist.

We arrive then at this important principle—that different strata are characterized by fossils peculiar to each ; and in accordance with this rule the stratified rocks of the earth-crust have been classified into some ten or twelve distinct divisions or systems, each marked by a peculiar assemblage of fossils by means of which far-distant exposures of rocks of the same system can be identified. The great divisions are still further divided into groups and stages, the smallest of which are however of purely local value.

The rocks of Warwickshire belong some to the oldest, some to the newest of these systems ; but there are great gaps in the series—the rocks elsewhere present either were not deposited in our area, or, if laid down, were afterwards wholly removed.

The table on page 3 shows in descending order the various systems of rocks represented in Warwickshire.

An examination of the geological map will show that these rocks are by no means equally important so far as the constitution of the surface of our county is concerned ; in this respect the red rocks of the Trias have the pre-eminence. These occupy the greater part of the surface, while the succeeding Jurassic beds form a smaller fringe on the south and south-east borders. Projecting through an extensive aperture in the red Triassic coverlet are the so-called Permians and the Coal Measures of the Warwickshire coalfield, while from below the latter emerge the Cambrian and still older Archæan rocks of Nuneaton.

Irregularly spread over the uneven surface formed by the edges or outcrops of all these 'solid' rocks are the superficial Pleistocene deposits, while the most recent of all are the still-forming alluvial tracts bordering the present rivers.

The surface-relief of the district is nowhere very bold ; the county forms part of an undulating plain bordered along its south-eastern and southern sides by the higher ridges and plateaux near Daventry, Edge Hill, and Chipping Norton. This same elevated tract circles round the Vale of Moreton and at Chipping Campden merges into the northern Cotteswolds ; it is formed by the tattered edge of the great sheet of Jurassic deposits which occupies much of the adjacent country to the south-east. That this edge or escarpment is gradually retreating in that direction is shown by its having left several isolated patches or 'outliers' some miles in its rear, as for instance at Ebrington Hill, at Brailes, and at Knowle.

These Jurassic limestones and sandstones overlook the less elevated grounds of the Lower Lias and Trias, not only because they were superposed on them originally, but also by reason of their own greater durability, not being so easily washed away by rain and streams. Indeed it may be laid down as an axiom that the harder rocks will be

GEOLOGY

Period	Formation	Character of the strata	Approximate thickness in feet	
Recent	Alluvium	Gravel, sand, loam, clay, and peat, along present streams .	up to 20 ?	
Pleistocene	Brickearth, Valley Gravel . .	Loam, sand, and gravel of old river-courses	up to 20 ?	
	Glacial Drift	Sand, gravel, stony clay ; boulders of distant rocks .	up to 100	
Jurassic	Great Oolite Series	Oolitic limestones and clays, with sandstones	80 to 100	
	Inferior Oolite Series.	Oolitic limestones, with sands and calcareous sandstone .	80 to 150	
	Lias {	Upper	Clay and shale, with limestones and calcareous sandstones .	120
		Middle.	Hard ferruginous limestone, sands and shales	280
		Lower	Clays and shales, with clayey limestones in lower part .	up to 960
Triassic	Rhætic	White and grey limestones, dark shales, and yellow sandstone	30 to 40	
	Keuper {	Marl	Red marl, mottled green ; green and buff (20 to 30 feet) at summit	600 to 700
		Sandstone	Red and brown sandstones and marls	150 to 200
	Bunter {	Upper	Fine red sandstone, without pebbles	200
		Middle.	Pebbly red sandstone, with pebble-beds	250 to 350
		? Lower	Yellow sandstone, without pebbles	?
Carboniferous	'Permian' of Salopian type. .	Red sandstones and marls, with limestone-conglomerate . .	2,000	
	Coal Measures {	(Newer (barren) measures. .	Sandstones and shales, with brick-clays and <i>Spirorbis</i> limestones	1,000
		Older (productive) measures	Sandstones and shales, with seams of coal, ironstone, and fireclay	
Cambrian	Upper : Stockingford Shales .	Grey, black, and purple shales	2,000	
	Lower : Hartshill Quartzite .	Grey quartzites and sandstones, with purple and grey shales and a thin limestone. . .	600	
Archæan	Uriconian and Upper Longmyndian. Caldecote series .	Volcanic breccias, tuffs, and grits	} ? several hundred	
Of various ages	Intrusive Igneous Rocks {	Diorites (Camptonites) ; post-Cambrian but pre-Carboniferous .	Crystalline igneous rocks	
		Porphyritic Basalt ; of pre-Cambrian age .		

A HISTORY OF WARWICKSHIRE

found to form elevations, just as the knots in the planking of an old floor always stand up above the general surface. We accordingly find that the hard quartzites and diorites of the Cambrian rocks occupy the ridge extending from Nuneaton to Atherstone; the durable pebble-beds of the so-called Permian rocks produce a well-marked feature at Corley (625 feet above sea-level); while the Bunter pebble-beds and Keuper building-stones generally give rise to picturesque wooded scarps.

We shall now proceed to a consideration of the various sheets of rock which have built up the earth-crust of our district, commencing with the lowest and oldest visible layer.¹

ARCHÆAN

On the north-eastern borders of the county, in the neighbourhood of Nuneaton, occurs a narrow strip of volcanic rocks, the Caldecote Series, which have been shown within the last few years to be of Archæan (i.e. pre-Cambrian) age. In the Geological Survey map² and accompanying memoir³ the rocks in question were called 'greenstone' and were regarded as probably intrusive, like the diorites in the overlying Cambrian rocks, and were not assigned to any definite age. The discovery by Professor Lapworth in 1882 of Upper Cambrian fossils in the black shales of Stockingford restricted the age of the Caldecote rocks to the Cambrian and pre-Cambrian periods. These discoveries were embodied by Mr. A. Strahan in a revised issue of the Survey map in 1886, in which the Caldecote Series—tuffs, quartz-porphyry, and diabase—were separately distinguished, but were classed as 'igneous' without being assigned to any definite period.

The recent determination of a Lower Cambrian fauna in the Harts-hill Quartzite itself (see Table, p. 3), together with the lapse of time suggested firstly by the contrast between the general lithological character of the quartzite and that of the underlying Caldecote Series, and secondly by the occurrence of abundant detritus of the latter in the basement beds of the quartzite, make it practically incontestable that the Caldecote rocks are pre-Cambrian in age.

The outcrop, less than a quarter of a mile wide, commences near the Midland Railway station at Nuneaton, and can be traced by small occasional exposures in a north-westerly direction for nearly two miles. The beds pass unconformably under the Cambrian rocks on the west, and are faulted against and unconformably covered by the Trias on the north-east. As was first recognized by Professor Lapworth,⁴ they con-

¹ For the chief publications relating to the geology of Warwickshire the reader is referred to a 'List of Works on the Geology, Mineralogy, and Palæontology of Staffordshire, Worcestershire, and Warwickshire,' by W. Whitaker, in the *Report of the British Association* for 1885; to the *Geological Record*, edited by W. Whitaker, for 1874-84; and to Professor Blake's *Annals of British Geology* for 1890-3. Some later papers will be found in the 'Geological Literature added to the Geological Society's Library,' published annually, also in 'A Sketch of the Geology of the Birmingham District,' by Professors Lapworth and Watts and Mr. W. J. Harrison, *Proc. Geol. Assoc.* xv. (1898), pp. 313-416.

² Old Series, 63 S.W. (1855).

³ Howell, *The Warwickshire Coalfield* (1859), p. 7.

⁴ *Geol. Mag.* (1882), p. 563; (1886), p. 319; and *Proc. Geol. Assoc.* xv. (1898), 330.

GEOLOGY

sist of sheets of volcanic breccia, tuffs, and volcanic grits, with a few intrusive dykes of basic rock.

The lowest beds of the series are some coarse breccias met with in a disused road near the Anchor Inn. The more compact tuffs with the aspect of brecciated quartz-felsites are exposed in Mr. Abel's Long Quarry immediately south of Hartshill Grange, and remarkably fine-grained tuffs are to be seen in the sides of an old tunnel 100 yards west of Caldecote Hill House, where, according to Mr. Strahan, the bedding planes dip at 25° to 30° in the same direction as those of the overlying quartzite, that is, about south-west.

An intrusive basic rock, a porphyritic basalt according to Professor Watts,¹ takes the form of a dyke which intrudes upon and partly overlies the ashes, and is exposed in an old paving-cube quarry known as the Blue Hole, about a quarter of a mile east of Caldecote Windmill. The rock into which it intrudes has the appearance of a quartz-porphry, but Professor Watts, who describes it as the 'quartz-felspar rock,' is inclined to regard it as a tuff.² A similar and possibly the same dyke of porphyritic basalt traverses the 'quartz-felspar rock' at the entrance to Mr. Abel's quarry near Hartshill Grange.

Professor Lapworth is of opinion that the Caldecote rocks are theoretically paralleled with the Upper Longmyndian and Uriconian groups of Shropshire.³

From the foregoing details it will be seen that the earliest and lowest Warwickshire deposits were produced by the agency of volcanoes. Exactly where these were situated it is as yet impossible to say, but in the Charnwood district, a few miles to the north-east, there are considerable masses of somewhat similar volcanic materials, though it is thought that these are of an earlier date; here, according to Professor Bonney, we have the site of a volcanic cone or group of cones which threw out dust and fragmentary materials into adjacent shallow lakes or lagoons.⁴ It seems likely that at this time the area which is now Britain was occupied by an archipelago of small volcanic islands. Such conditions were not perhaps highly favourable to the existence of living beings in the surrounding waters; nevertheless life was not entirely absent, for a few fossil worm-burrows have been discovered in some of the Charnwood rocks, though none has yet been met with in the Caldecote beds.

CAMBRIAN

After a while this low-lying tract of volcanic islands subsided beneath the waters and was in part covered by several thousand feet of Cambrian sands and muds. These, the lowest rocks in which fossils occur in any abundance, are found to overlies the Archæan rocks in the

¹ *Proc. Geol. Assoc.* xv. (1898), 391.

² Watts, *op. cit.* p. 392. See also Rutley, *Geol. Mag.* (1886), p. 557; and Waller, *ibid.* p. 322.

³ Lapworth, *Proc. Geol. Assoc.* xv. (1898), 327.

⁴ A. J. Jukes-Browne, *The Building of the British Isles*, ed. 2 (1892), pp. 29-32.

A HISTORY OF WARWICKSHIRE

neighbourhood of Nuneaton. They consist of a lower sandy division, the Hartshill Quartzite, and an upper shaly division known as the Stockingford Shales.

In 1829 they were classed by Yates¹ as of Silurian age, on account of the resemblance of the quartzite to that of the Lickey Hills near Bromsgrove. Subsequently however they were put into the Carboniferous system;² the Stockingford Shales, which seemed to be perfectly conformable with the overlying Coal Measures, were thought to be an unproductive group of that formation, while the Hartshill Quartzite was held to be a metamorphosed representative of the Millstone Grit. No fossils had then been obtained from either of the two divisions, and some of the shales have a decided coal-measure aspect. It is evident however that Jukes³ recognized their Silurian or even pre-Silurian age.

But the discovery in 1882 by Professor Lapworth⁴ of a number of fossils in the Stockingford Shales characteristic of the Lingula Flags of the Upper Cambrian (then classed as Lower Silurian by the Geological Survey) finally settled the age of the higher of the two sub-divisions; and in confirmation of these discoveries the revised issue of the Survey map in 1886 represented the Shales and with them the Quartzite as Lower Silurian.

It still remained desirable to determine on independent evidence the age of the Quartzite. This has since been rendered clear by the recent discovery in its higher beds of a fauna highly suggestive of the *Olenellus*-zone of the Lower Cambrian of other regions; and as Professor Lapworth points out, 'it now appears exceedingly probable that the whole of the Cambrian system is represented here in an attenuated form.'⁵

The Cambrian outcrop of Nuneaton extends from near Bedworth on the south-east to Merevale on the north-west, a distance of about eight miles, the greatest width being about a mile. The beds dip generally in a south-west direction at angles varying from 20° to 45°, having been tilted up by crumpling of the earth-crust at some time subsequent to their deposition. The upper beds pass unconformably under the Coal Measures of the adjacent coalfield, while the lowest beds rest unconformably on the Archæan rocks already described.

From base to summit the beds are pierced by dykes and sills of intrusive diorite (camptonite), and the whole outcrop on account of the relative durability of the rocks forms a low ridge of picturesque and wooded country.

The rocks are divisible in the following manner, in descending order:—

¹ *Trans. Geol. Soc.* ser. 2, ii. 237.

² Geol. Survey map, 63 S.W. (1855); also Howell, 'The Warwickshire Coalfield,' *Mem. Geol. Survey* (1859), p. 8.

³ 'The South Staffordshire Coalfield,' *Mem. Geol. Survey*, ed. 2 (1859), p. 134.

⁴ *Geol. Mag.* (1882), p. 563.

⁵ *Proc. Geol. Assoc.* xv. (1898), 338.

GEOLOGY

Stockingford Shales	{	Merevale Shales.
	{	Oldbury Shales.
	{	Purley Shales.
Hartshill Quartzite	{	Camp Hill Quartzite with Hyolite Limestone.
	{	Tuttle Hill Quartzite.
	{	Park Hill Quartzite.

The Hartshill Quartzite consists of well bedded highly siliceous sandstones, usually of a pale pinkish colour ; the rock is very hard, and according to Mr. Strahan¹ a prepared cubic inch crushes at a pressure of 24,000 lb. The beds vary in thickness from a few inches to four or five feet. Frequent thin seams of shales occur ; a double band marks the summit of the Park Hill Quartzite, and another separates the middle and upper sub-divisions. 'Worm-burrows' are the only fossils found in the two lower sub-divisions, but the Camp Hill Quartzite has yielded a small but interesting fauna.

The Lower or Park Hill Quartzite is opened up in numerous large quarries, the rock being extensively wrought for roadstone. The lowest layers are best seen at the entrance to Mr. Abel's new quarry near Hartshill Grange. In this cutting 'the Caldecote tuffs rise in a low anticlinal form, and are visibly overlain to the westwards by the basement bands of the quartzite.'² At the entrance to Mr. Boon's quarry the quartzite for some distance upwards from its base 'contains large rounded blocks of Caldecote volcanic rocks, while the matrix is mainly composed of the rounded wash of similar material.'³

The Middle or Tuttle Hill Quartzites are being worked in only two quarries, one at Tuttle Hill opposite the Midland Railway station at Nuneaton, and another near Caldecote Windmill. The rocks resemble those of the lower sub-division.

The Upper or Camp Hill Quartzite is exposed in the Camp Hill Grange quarry belonging to Messrs. Trye. The base of the sub-division is formed by a shaly band some 50 feet thick, at the top of which occurs a seam, 2 feet thick, of red-coloured hard and tough limestone, the Hyolite Limestone, above which the sub-division is completed by 50 feet of hard quartzose and glauconitic sandstone.

The fossils of the Hyolite Limestone and its associated shales include several species of *Hyolithus*, *Orthotheca*, and *Stenotheca*, and the brachiopod *Kutorgina cingulata*. This fauna corresponds in part to that of the *Olenellus*-zone of other regions ; and Professor Lapworth therefore considers that the Camp Hill Quartzite is probably equivalent to the Comley Sandstone of Shropshire and the Hollybush Sandstone of Malvern.

The Stockingford Shales succeed to the uppermost beds of the quartzite. Their outcrop attains its greatest width at Merevale, the highest beds there coming to the surface from beneath the unconformable Coal Measures. They consist throughout of fine-grained shales and mudstones.

¹ *Geol. Mag.* (1886), p. 544.

² Lapworth, *Proc. Geol. Assoc.* xv. (1898), 340.

³ Lapworth, *op. cit.* p. 332. See also Strahan, *Geol. Mag.* (1886), p. 543.

A HISTORY OF WARWICKSHIRE

The Lower or Purley Shales are exposed in Purley Park Lane and in the cutting on the Midland Railway near Nuneaton. The beds are generally reddish-purple and contain manganese ores which were worked by pits at various points along the outcrop. Fossils have been obtained from the Purley Park Lane sections, and include among others minute forms of the brachiopods *Lingula*, *Obolella sagittalis*, and *Acrotbele granulata*; the sponge *Protospongia fenestrata*, and the trilobite *Conocoryphe exulans*.

The Middle or Oldbury Shales are best seen in the Midland Railway cutting at Stockingford, and in quarries and cuttings at Chapel End. The beds are characterized by black carbonaceous bands. They have yielded remains of the trilobites *Agnostus pisiformis* var. *socialis*, *Olenus nuneatonensis*, *Sphærophthalmus alatus*, and *Ctenopyge pecten*; together with *Beyrichia angelini*.

The Upper or Merevale Shales are exposed in an old quarry 200 yards west of Merevale Abbey. They consist of greenish-grey shales and have yielded numerous examples of the hydrozoan *Dictyonema sociale*.

A small inlier of the Stockingford Shales was detected at Dosthill, south of Tamworth, by Mr. W. J. Harrison¹ in 1882. The rocks are pierced by a mass of diorite. Sections in the shales have been recorded² as occurring in the side of the high road a quarter of a mile south of Dosthill, and in a small pit near Stockall Barn. The beds dip south-west at 20° to 40°, and consist of highly-altered grey and olive-coloured sandstones.

The following table shows the probable relationships of the Nuneaton Cambrian beds to those of other districts:—

	Nuneaton.		Wales, etc.
Stockingford Shales.	Merevale Shales	Upper Dolgelly (<i>Dictyonema</i> -beds)	} Upper Lingula Flags
	Oldbury { upper	Lower Dolgelly	
	Shales { lower	Ffestiniog and Maentwrog beds .	} Lower Lingula Flags
	Purley { upper	
	Shales { lower	Menevian (<i>Paradoxides</i> -zone)
Hartshill Quartzite.	Camp Hill Quartzite and Limestone	} <i>Olenellus</i> -zone	
	Tuttle Hill Quartzite		
	Park Hill Quartzite		

The Cambrian rocks of Nuneaton afford evidence of having been deposited in a shallow sea whose floor was gradually undergoing subsidence. The quartzites and sandstones were perhaps to some extent shore deposits laid down at no great distance from a tract of land. This must have consisted in part of the Archæan volcanic ashes, for we have seen that much ground-down volcanic material was incorporated in the lower beds of the Hartshill Quartzite. As the sea bottom sank, the land, wherever this was situated, was gradually submerged, and the coarse

¹ Lapworth, *Geol. Mag.* (1882), p. 563; Harrison, *Mid. Nat.* vol. viii. (1885) and vol. ix. (1886).

² Strahan, *Geol. Mag.* (1886), p. 551.

GEOLOGY

sand deposits were succeeded by the finer mud of the Stockingford Shales, although the waters must have become sufficiently clear and calm at one time to have allowed of the formation of the Hyolite Limestone from the remains of various mollusca. The only fossils in the lower two divisions of the Quartzite are a few worm-burrows, suggestive of the sands having been deposited along a shore; the Shales however as we have seen contain abundant evidence that the Cambrian seas were peopled with a considerable fauna.

Intrusive Igneous Rocks.—The volcanic activity which is evidenced by the igneous origin of the Caldecote rocks probably continued or was reopened probably in immediately post-Cambrian time; for both the Hartshill Quartzite and especially the Stockingford Shales are traversed by many sills and dykes of diorite (camptonite), which are evidently solidified masses of molten rock forced up from below into the Cambrian sediments. There is no evidence whatever to show that these ever reached the surface and produced volcanoes, terrestrial or submarine. The sills and dykes generally follow the bedding, but frequently cut through the strata, baking and altering them. Yates perceived their intrusive character in 1824. Allport¹ gave a figure of a section showing this at Chilvers Coton railway cutting. Mr. Fox-Strangways² mentions that in the quarry south of Merevale church the Stockingford Shales dip at 15° to the south-west, while the igneous rock inclines at an angle of 35° in the same direction.

The sheets of diorite vary from mere threads less than a foot thick to masses over a hundred feet through. They attain a great development in Merevale Park and at Chilvers Coton. They have been wrought for paving-cubes. One of the sills is well exposed in the Midland Railway Company's quarry at Nuneaton station; the jointing of the rock is at right angles to the quartzite beds between which it was intruded and cooled. At the entrance to Messrs. Tyre's quarry a thin sheet of diorite intruded into the lower layers of the quartzite has segregated on cooling into basic clots and acid veins.

The microscopic structure and composition of these igneous rocks have been described by Allport, Waller, Teall, and Watts; it was Allport's recognition of the fact that these rocks differed from the Carboniferous dolerites which gave an early hint that the Stockingford Shales were no part of the Coal Measures. They consist essentially of a triclinic felspar and hornblende, with some magnetite and apatite. Augite and olivine are sometimes present; and Professor Watts³ remarks that the rocks would be appropriately called hornblendic, augitic, or olivine-bearing camptonites. That the intrusions are of pre-Coal-measure age might justly be inferred by their entire absence from those rocks; but this was placed beyond doubt by the careful mapping of the Coal Measure base by Mr. Strahan,⁴ who found that at Maw-

¹ *Quart. Journ. Geol. Soc.* xxxv. (1879), 637.

² 'Geology of Atherstone, etc.,' *Mem. Geol. Survey*, (1900), p. 11.

³ *Proc. Geol. Assoc.* xv. (1898), 395.

⁴ *Geol. Mag.* (1886), pp. 550, 551.

A HISTORY OF WARWICKSHIRE

bourne, south-west of Atherstone, this rests on the edges of the Stockingford Shales, including two sheets of diorite. As these latter have not affected the Coal Measures they must have been intruded in pre-Coalmeasure times; and Professor Watts seems disposed by general considerations to think that the intrusions are of immediately post-Cambrian age.

CARBONIFEROUS

Between the period of the Cambrian rocks of Nuneaton and that of the Coal Measures which overlie them there is a great gap, unfilled in our district by any known formation. We know that during this enormous interval thousands of feet of muds and volcanic ashes—the Ordovician rocks—were deposited over what is now Wales and the west and north of England; but none of these is known to occur eastwards of the Malvern district, and it therefore seems probable that what is now central England was occupied by an extensive island—formed of the upraised Cambrian sediments—which stood up above the waters of the Ordovician Sea. This land tract however slowly sank and contracted in area, for the Silurian deposits, which immediately followed the Ordovician, extend farther eastwards over the subsiding area; but the higher parts of the district seem still to have kept their heads above water during this and the succeeding Devonian period, for these vast accumulations of mudstones, limestones and red sandstones are unrepresented in our county; and it is practically certain that parts of the old island were still in existence as such while the Carboniferous or Mountain Limestone and Millstone Grit of Derbyshire and Yorkshire, Wales and Ireland were accumulating. This Lower Carboniferous sea lay to the north, east, and south of our area; we even obtain a glimpse of its coast-line at Grace Dieu in Charnwood Forest, but nearer than that it appears not to have approached. By the time that the higher ridges of Cambrian rocks at the north of the county had sunk to the water level the physical aspect of the midlands had changed. The sea had become shallowed, land-locked areas developed, and ultimately communication with the open ocean was cut off. The district became converted into ‘an immense delta or fenland, including many large lagoons and wide channels, surrounded by swamps which were never much above the level of the sea.’¹ These delta deposits are our Coal Measures.

Thus the Millstone Grit and Carboniferous Limestone are alike unrepresented, and the only Carboniferous rocks present on the surface in the county are the Coal Measures of the Warwickshire coalfield.

The Coal Measures form a narrow belt of country extending for about fifteen miles from Bedworth on the south-east, past Nuneaton and Atherstone, to Tamworth on the north-west, where the outcrop attains its greatest breadth of about four miles. They rest unconformably on the Cambrian, and are succeeded with every appearance of perfect

¹ A. J. Jukes-Browne, *The Building of the British Isles*, ed. 2 (1892), p. 133.

GEOLOGY

conformity by the so-called Lower Permian rocks. The Coal Measures lie in a syncline or trough, the axis of which extends in a north and south direction, and on all sides the beds dip towards this line. The northern part of the coalfield is bounded by faults or lines of fracture, along which the rocks on either side have been relatively shifted, so that here various newer rocks, the 'Permian' and Trias, abut against the Coal Measures. Mr. Fox-Strangways thinks it unlikely that the Coal Measures will be found to extend continuously under the Trias into the Leicestershire coalfield. In the other direction however they extend southwards under the 'Permian' of Baxterley, and come to light again as a small 'inlier' at Arley. South of Bedworth both the Coal Measures and 'Permian' are covered unconformably by the Trias, and the seams have been worked through this last as far south as the Craven Colliery, three miles north-east of Coventry. Beyond this the outcrops are said to curve round towards the south-west.¹

It becomes an interesting and important question as to whether or not these coals extend continuously under the Trias towards South Staffordshire. There is no reason to doubt that the Coal Measures of the Warwickshire coalfield and those of South Staffordshire were originally deposited in one and the same basin, for in both districts the measures thicken towards the north-north-west, and in the opposite direction the coals approach each other by the thinning out of the intermediate beds, and tend to combine into one or two seams of abnormal thickness. It thus, in Professor Lapworth's² words, 'becomes a matter of high probability that the Thick Coal of South Staffordshire extends more or less continuously under the Red rocks of North Warwickshire, possibly from Hawkesbury to Smethwick.' At the same time it must be borne in mind that land apparently lay to the south and south-east during Coal Measure times, and in that direction the coals may be expected to die out; again, it is always possible that there may be local unconformities and 'wash-outs' within the Coal Measures themselves, and it is just possible that areas of post-Carboniferous folding and denudation may lurk concealed and unsuspected under the unriven cloak of Trias.

According to Professor Lapworth³ the Warwickshire Coal Measures may be grouped in descending order as follows:—

4. Grey and red sandstones and shales, with one or more bands of *Spirorbis* limestone.
3. White and yellow sandstones and shales.
2. Red and green brick-clays and marls.
1. Grey sandstones and dark shales with five workable coal seams, and beds of fireclay and ironstone.

The base of the series was first worked out in detail in 1886 by Mr. Strahan.⁴ He found the lowest beds to consist locally of buff or

¹ Howell, 'The Warwickshire Coalfield,' *Mem. Geol. Survey*, p. 22.

² *Proc. Geol. Assoc.* xv. (1898), 369.

³ *Ibid.* p. 368.

⁴ *Geol. Mag.* (1886), p. 540 et seqq.; also *Geol. Survey map*, sheet 63 S.W. new ed. (1886).

A HISTORY OF WARWICKSHIRE

white sandstones, coarse, false-bedded, and ferruginous, and containing numerous quartzose pebbles ; the beds resting unconformably on the Cambrian rocks. At Dosthill this unconformity is most marked, the dip of the Cambrian shales being south-west at 20° to 40° , while the Coal Measures dip eastwards at angles of 50° to 80° . Mr. Fox-Strangways¹ describes the basement sandstone as being well exposed along the lane and in some old quarries on the east side of Monk's Park Wood, south-west of Atherstone ; the sandstone resting nearly horizontally on the Cambrian shales which dip at 38° .

The workable coals are confined to the lower part of the series ; in descending order the chief seams are the Four-foot ; the Two-yard, Rider, and Bare, worked as one seam ; the Slate ; the Seven-foot ; and the Bench. The lowest seams sometimes rest almost directly on the Cambrian shales, but are locally separated from them by sandstones which vary rapidly in thickness, apparently filling up hollows on the old surface.

In the northern part of the coalfield the Four-foot and the Slate coals are separated by over a hundred feet of measures ; but when followed southwards they approach each other by the thinning out of the intermediate beds, so that at the Hawkesbury Colliery south of Bedworth the upper four coals come together to form a single seam which, with thin partings, amounts to about 34 feet in thickness.

The principal seams have all been worked along their outcrops. According to Mr. Fox-Strangways the Seven-foot coal is the one now generally mined. At Amington and Glascote the underclay of this seam is used for fire-bricks. Ironstone from the same horizon was formerly raised at Monk's Park and smelted on the spot by means of charcoal ; and Mr. Howell mentions² that ironstone was being worked at Bedworth, Hawkesbury, and Wyken. Irregular beds of sandstone are prevalent immediately above the Four-foot coal, and have been quarried here and there between Merevale and Polesworth.

About 150 feet below the top of these Coal Measures occurs a well marked band of limestone, from 2 to 3 feet thick ; from the presence of the small coiled annelid shell *Spirorbis pusillus* it is known as the *Spirorbis* Limestone. Its outcrop, marked by numerous old workings, has been traced with little interruption from Sybil Hill near Kingsbury to Bedworth. It has been seen also in the stream in Monk's Park Wood, south-west of Atherstone, and it appears in its proper position in the outcrop of Coal Measures at Arley. The rock varies in colour from buff or light grey to a dark slaty blue.

Besides this band, long since recognized and mapped, Mr. Fox-Strangways³ has lately obtained evidence of the existence of a second between Baddesley and Baxterley.

The Coal Measures generally yield abundant fossil evidence of plant

¹ 'Geology of Atherstone, etc.' *Mem. Geol. Survey* (1900), p. 15.

² 'Warwickshire Coalfield,' *ibid.* (1859), p. 19.

³ 'Geology of Atherstone, etc.' *ibid.* (1900), p. 20.

GEOLOGY

life. The vegetation of the period consisted largely of giant species of cryptogamic plants allied to our modern tree ferns, horsetails, and club mosses. To the first class belong the various Coal Measure ferns, such as *Sphenopteris*, *Neuropteris* and *Pecopteris*; to the second belongs the genus *Calamites*, with jointed and finely-fluted stems. To the third class belongs the *Lepidodendron*, the stems of which are covered with scale-like markings. To this is closely allied the *Sigillaria*, with seal-like impressions on the broadly fluted trunk. *Stigmara* is a root common in the underclays of coal seams, and is so called on account of its pitted and tuberculate surface. Specimens of all these plant remains may be looked for in the beds of sandstone, shale and fireclay associated with the coals, which themselves are made up of compressed beds of this ancient vegetable growth.

Of animal life specimens of bivalve shells, *Anthracomya* and *Carbonicola*, the latter resembling our freshwater mussels, and also fish remains, may be looked for in the same beds; while the *Spirorbis pusillus* is generally abundant in the limestones near the summit of the Coal Measures. It is likely too that the limestones and some of the shale bands may on careful search be found to contain small bivalved entomostraca such as *Carbonia* and *Estheria*.

Permian.—The so-called Lower Permian rocks occupy a broad tract of country extending from Baxterley on the north to Kenilworth on the south; their eastern limit is formed by the ordinary Coal Measures which rise conformably from beneath them; on the west, south, and south-east the tract is bounded by Triassic rocks.

The beds consist of about 2,000 feet of alternations of red, brown, and purple sandstones and red marls, with impersistent bands of breccia and conglomerate. According to Mr. Fox-Strangways,¹ sandstones are conspicuous towards the base, and form a marked feature in the northern part of the district, where they have been quarried at numerous localities about Baddesley Ensor and Baxterley.

The breccias and conglomerates are generally found in the lower part of the series; one band particularly well-marked occurs at about the middle, and forms a bold escarpment at Corley.² They are made up largely of pebbles of Carboniferous limestone and chert, among which some of Silurian sandstone have been noted at Exhall. So rich are they in limestone pebbles that they have been extensively quarried and burnt for lime between Fillongley and Over Whitacre.

The higher beds of the series occur between Coventry, Kenilworth, and Warwick, and the sandstones may be seen in various quarries. The beds hereabouts however appear to be largely composed of marls, for near Warwick a boring passed through 700 feet of rock consisting chiefly of marls and thin beds of sandstone.³

More recently a boring has been put down at Kenilworth for the

¹ 'Geology of Atherstone,' *Mem. Geol. Survey* (1900), p. 28.

² For breccias near Polesworth see H. T. Brown, *Quart. Journ. Geol. Soc.* xlv. (1889), 1.

³ Howell, 'Warwickshire Coalfield,' *ibid.* (1859), p. 31.

A HISTORY OF WARWICKSHIRE

town water supply ; it passed through 226 feet 6 inches of these beds, the upper of which were chiefly marls.¹

These so-called Lower Permian rocks have yielded very few fossils ; fragments of the cryptogamic plants *Lepidodendron* and *Calamites* have been recorded from a quarry near Exhall, and silicified trees at Allesley and Meriden. Obscure casts of a shell supposed to be *Strophalosia* occurred at the Exhall quarry, and remains of a labyrinthodont reptile, *Dasyceps bucklandi* (Huxley), were discovered in a quarry at Kenilworth. Some of these are preserved in the Warwick Museum.

There is some reason to think that *Spirorbis* limestone bands may occur in these rocks at Whitacre Hall (near Nether Whitacre), for Mr. Howell² records that such limestone was formerly burnt there.

Of late years evidence has been accumulating tending to show that similar rocks in other districts are very closely related to the Coal Measures. In the Wyre Forest coalfield³ district in Shropshire, and also in the North Staffordshire coalfield,⁴ rocks in all respects similar to these of Warwickshire contain *Spirorbis* limestones and thin coals. Nor is there in Warwickshire any evidence of a lapse of time or of abrupt changes of any sort at the base of these rocks : the *Spirorbis* limestone band in the ordinary Coal Measures is everywhere present at about the same distance below these 'Permian' beds. The occurrence west of Polesworth of what seemed a small isolated tract or outlier of these rocks apparently situated on lower beds of the Coal Measure series gave colour to the supposition that here the 'Permian' rocks are unconformable to the beds below ; but this has been lately disproved by Mr. Fox-Strangways, who finds that the supposed 'Permian' here is a band of red-coloured sandstone in the ordinary Coal Measures themselves.

It thus becomes evident that the so-called Permian rocks of Salopian type—named thus from their typical development in Shropshire—are linked on to the Coal Measures both stratigraphically and palæontologically, and should therefore be included in the Carboniferous system.

TRIASSIC

The rocks we have been hitherto describing form an isolated area surrounded on all sides by a great spread of red sandstones and marls which constitute the Trias. The delta and lagoons and jungle swamps of the Coal Measures had passed away ; the red 'Permian' beds had succeeded, deposited it would seem in a slowly sinking area of land-locked lakes or almost wholly enclosed lagoons, the waters of which were highly charged with iron salts and unfavourable to animal life. At the close of this 'Permian' period great movements took place which resulted in the raising up of large areas of land, which were forthwith subjected to erosion. There seems to have ensued a state of things in

¹ W. Andrews, 'On the New Water Supply at Kenilworth,' *Proc. Warwick. Nat. and Archæol. Field Club* (1895), p. 54.

² 'Warwickshire Coalfield,' *Mem. Geol. Survey* (1859), pp. 28, 29.

³ T. C. Cantrill, *Quart. Journ. Geol. Soc.* li. (1895), 528. ⁴ W. Gibson, *ibid.* lvii. (1901), 251.

GEOLOGY

northern Europe similar to that of central Asia at the present day. The Triassic deposits were then laid down, the Bunter apparently in desert lakes subject to desiccation, into which periodical streams swept sand and pebbles from the neighbouring uplands; the Keuper in a much more extensive lake or inland sea, into which the ocean at last broke and introduced the marine fauna of the Rhætic.

In Warwickshire the following subdivisions of the Triassic rocks occur :—

Rhætic	
Keuper	{ Keuper Marls with Upper Keuper Sandstone. Lower Keuper Sandstone.
Bunter	{ Upper Sandstone. Pebble Beds. (Lower Sandstone ?)

The Lower Bunter Sandstone which to the west of our district is so well developed in the Severn valley dies out when followed thence to the east, and has generally been thought to be absent east of the South Staffordshire coalfield; but in 1890 Mr. J. Landon¹ called attention to the occurrence of beds of yellow sandstone below the Pebble Beds near Barr Beacon, and concluded that the Lower Bunter Sandstone is there present in force.

The Pebble Beds are well developed at Sutton Park and west of Birmingham, while a small area occurs to the east of Polesworth. The rocks consist of pebbly red coarse sandstone and impersistent beds of pebbles. These are well rounded by water action, and are chiefly of yellow, brown, and liver-coloured quartzite, white quartz, and grey crinoidal Carboniferous limestone and chert. Where two or more pebbles are in contact they have generally pressed into each other and produced a characteristic crush-mark. The source and mode of origin of these pebbles is still a matter of dispute, but the opinion of those most familiar with them is that they were derived from rocky ridges of high land which stood as islands in or formed the margins of the Triassic lake basins. Of parts of these old ridges we see the worn-down relics in the Wrekin and Caradoc districts of Shropshire, the Malvern-Abberley and Lickey ranges in Worcestershire, and the Nuneaton and Charnwood hills in Warwickshire and Leicestershire. Buckland long ago recognized that the Bunter pebbles are in many instances agreeable in substance with the quartz rock of the Lickey, and was of opinion that an extensive outcrop of this latter rock was the source of much of the Bunter material.

Exposures of the Bunter pebble beds may be seen in Sutton Park, notably in a gravel pit near Blackroot Pool. They are to be seen also on the east of the Warwickshire coalfield in a railway cutting east of Polesworth. The rock being more resistant to the weather than those above and below, generally forms a well-marked escarpment, as at Barr Beacon; the soil is generally poor and exceedingly pebbly, and is

¹ *Proc. Birm. Phil. Soc.* vii. 113.

A HISTORY OF WARWICKSHIRE

often left as uncultivated heathland, as for instance in the case of Sutton Park.

The Upper Sandstone overlies the Pebble Beds and extends through Birmingham towards Lichfield. It is excellently exposed in some large excavations near the Great Western railway near Hockley station; it consists of soft, fine-grained, bright-red sandstone, without pebbles, and is extensively dug for moulding-sand. East of the Birmingham district this subdivision is unknown.

The Lower Keuper Sandstone forms an elevated ridge of ground extending from Birmingham through Erdington to Sutton Coldfield. It reappears around the north of the Warwickshire coalfield at Tamworth and Warton, and extends north-eastwards thence past Newton Regis towards Leicestershire. Farther south it forms an almost continuous fringe to the Carboniferous and 'Permian' rocks from Nuneaton to Warwick, and thence past Berkswell to Maxtoke. The rocks consist of red, brown and white sandstone with bands of red marl. A dull-red pebbly sandstone is exposed by the canal side at Gravelly Hill, north-east of Birmingham; and the upper beds occur at Reddicap Hill near Sutton Coldfield. Calcareous breccias are recorded by Mr. Howell¹ as occurring near Tamworth. White sandstone is found at Maxtoke and Meriden Hall and is traceable towards Kenilworth. Mr. Fox-Strangways² observes that near Merevale some of the beds are soft and unconsolidated and are dug for sand. Sandstones have been quarried at Warton and Seckington, and in the village of Newton Regis they are exposed near the church. Sections at Austrey show the upward passage of the highest sandstones into the lowest beds of the Keuper Marl subdivision. South of Nuneaton the unconformable relation of the Keuper to the Cambrian was well shown in a large quarry at Marston Jabet—red marl and white sandstones with a conglomeratic base resting horizontally on the Stockingford Shales with intruded diorite, dipping east at 15°. Near Warwick the beds have been quarried for building stone and have yielded a number of footprints, bones, and teeth of the extinct amphibia *Labyrinthodon* and *Mastodonsaurus*; their footprints are five-toed. Lizard-like reptiles are represented by *Hyperodapedon*; dinosaurs by *Thecodontosaurus*, the footprints of which are three-toed. A fine collection of these fossils is to be seen in the Warwick Museum.³

The Lower Keuper Sandstones above described pass upwards, without any break, into the Keuper Marls, which attain a great thickness and spread over the greater part of central Warwickshire. The beds consist of red marls and shales frequently mottled and banded of a green colour. Thin seams of gypsum are occasionally met with; one has been worked at Spennall north of Alcester. Salt beds in the marls have long yielded the brine springs of Droitwich (in Worcestershire).

One or more well marked bands of grey sandstone, the Upper

¹ 'Warwickshire Coalfield,' p. 38.

² 'Geol. of Atherstone,' p. 34.

³ See Huxley, *Quart. Journ. Geol. Soc.* xxv. (1869), 138, and xxvi. (1870), 32; also Miall, *ibid.* xxx. (1874), 417.

GEOLOGY

Keuper Sandstone, occur within the Marls, but they are somewhat impersistent. They are well developed in the neighbourhood of Henley-in-Arden, where they form some picturesque escarpments. These beds received much attention from the late Mr. Brodie of Rowington; there they have yielded some few fossils, including the heterocercal fish *Dictyopyge* (*Palæoniscus*) *superstes*.¹ The bivalved phyllopod crustacean *Estheria minuta*, with remains of fishes (e.g. *Acrodus*), *Labyrinthodon*, reptilian footprints, and plants were found at Shrewley by Mr. Brodie;² and more recently at the latter place some molluscs, probably marine according to Mr. R. B. Newton,³ were found by Messrs. Brodie and E. P. Richards in some green gritty marls associated with the Upper Keuper Sandstone.

The highest beds of the Marl are pale green in colour, the iron oxides not being in a state of complete oxidation. They are generally known as the Tea-green Marls and have in some localities been grouped with the Rhætic beds; but in other districts they are more closely associated with the Keuper.

The highest beds of these green marls are succeeded by a thin series of fossiliferous black shales, grey marls, and limestones of marine origin which constitute the Rhætic beds; they form a passage group into the Lias, and generally show a two-fold subdivision:—

Rhætic	{	White Lias group; grey shales and limestones.
		<i>Avicula contorta</i> shales; black paper-shales with one or more bone beds and thin seams of yellow sandstone.

The whole of the beds are richly fossiliferous; the characteristic species of the lower part are the lamellibranchs *Avicula contorta*, *Pecten valoniensis*, and *Pullastra arenicola*. The higher beds or White Lias contain *Cardium rhæticum*, with *Ostrea liassica* and *Modiola minima*, allied respectively to our modern oyster and mussel. The bone beds are bands, one or more inches thick, abounding in rolled and broken teeth and bones of fish.

In Warwickshire the Rhætic beds are probably present between the Keuper Marls and the Lias from one end of the county to the other; but the amount of information concerning them is small. At Binton, west of Stratford-on-Avon, they have been described by Dr. Wright⁴ and also by Mr. R. F. Tomes;⁵ according to the latter the uppermost beds consist of greenish-grey clay,⁶ succeeded by the Guinea Bed, a hard crystalline limestone one foot thick, deriving its name from its property of ringing under the hammer. This limestone is highly fossiliferous and contains a mixture of Liassic and Rhætic forms, the latter probably incorporated with Liassic forms in their present position by the breaking down of a previously deposited Rhætic bed. On this account Mr. H. B. Woodward would regard the Guinea Bed as the lowest bed of the Lias. Rhætic beds are known to occur at Wootton Park near Alcester, and at

¹ Egerton, *Quart. Journ. Geol. Soc.* xiv. (1858), 164.

² *Quart. Journ. Geol. Soc.* xii. (1856), 374.

³ *Journ. Conchology*, vii. (1894), 408.

⁴ *Quart. Journ. Geol. Soc.* xvi. (1860), 374.

⁵ *Ibid.* xxxiv. (1878), 179.

⁶ See section in H. B. Woodward's 'The Jurassic Rocks of Britain,' *Mem. Geol. Survey*, iii. 151.

A HISTORY OF WARWICKSHIRE

Wilmcote they were excellently exposed in quarries as described by Wright; the White Lias consisting of hard crystalline limestone, below which follow marls and blackish shales with *Estheria minuta* and the characteristic *Avicula contorta* and *Pecten valoniensis*. A bone bed has been noted at Temple Grafton. Strickland recorded the presence of black shales and yellow sandstone at Bidford, and Brodie¹ has given details of the sections exposed on the Stratford and Fenny Compton railway. The railway section of the Rhætics and Lower Lias at Harbury, south-east of Leamington, has long been famous; the yellow sandstone with *Estheria minuta* is present below the White Lias. Still farther along the base of the Lias the Rhætic beds have been exposed on the London and North-Western railway west of Church Lawford near Rugby; according to Mr. Woodward² they consist of 5 or 6 feet of buff limestones overlying 5 to 8 feet of greenish-grey marl; the *Avicula contorta* shales appear to be unrepresented.

Brodie³ described two interesting outliers or small isolated patches of Lower Lias and Rhætic beds south-west of Henley-in-Arden, and another, still farther away from the main tract, at Knowle. The Rhætic beds of these outliers have yielded some of the usual characteristic fossils. The Knowle outlier which is situated some 10 miles to the north of the main Liassic tract is interesting as showing the former extension of these beds in a northerly direction; Dr. Lloyd of Leamington seems to have been the first to detect its existence. The Lias limestones were formerly wrought by shafts. The Rhætic shales contain a band of yellow micaceous sandstone with the fossil bivalve *Pullastra arenicola*, and were noted by Brodie as exposed in the banks of the canal.

From the foregoing details of the Warwickshire Rhætic beds it would appear that they do not present anything like the full development as exhibited in the classic sections of Penarth or Aust on the shores of the Bristol Channel; as Mr. Woodward⁴ points out, 'there is a development of sandy beds, the black shales are very thin in places, and near Church Lawford they are absent; again, the White Lias north of Harbury is somewhat sandy, it shows current-bedding and ripple-marks, and is itself occasionally nodular,' and he concludes that the beds of our district were laid down not far from a local margin of the deposit. By the end of the Keuper Marl period the general subsidence of the whole British area which had been going on from the close of the Bunter epoch had resulted in the submergence of the barriers which had hitherto kept out the sea; this now gained access to our district, and with it the period of the desert and lacustrine Red Rocks came to an end; and henceforward marine deposits alone were laid down over the site of the future Warwickshire. As we have seen, the first of these consists of the Rhætic limestones and shales which serve merely as an introduction to the Lias.

¹ *Quart. Journ. Geol. Soc.* xxx. (1874), 746.

³ *Quart. Journ. Geol. Soc.* xxi. (1865), 159.

² *Op. cit.* p. 162.

⁴ *Op. cit.* p. 151.

GEOLOGY

JURASSIC

The Lower Lias succeeds the Rhætic without any marked interruption; locally there may have been some little breaking up of previously formed beds, brought about perhaps by changes of current, but on the whole the Lias came in quietly. The formation occupies much of the southern part of the county. The basement beds consist usually of even-bedded blue limestones and dark shales in thin alternating bands; certain of the limestones and others which belong to the underlying White Lias contain numerous remains of insects and have long been known through the researches of Brodie as the Insect Beds. Throughout the Warwickshire area the beds are especially rich in species of the lamellibranchs *Cardinia* and *Hippopodium*, and the lowest layers abound in the small oyster *Ostrea liassica*. But it has been found that the ammonites more than any other fossil exhibit a succession of species each of which characterizes a certain part of the formation; and we thus are enabled to subdivide the Lias into a number of 'zones,' of which the lowest is that of *Ammonites planorbis*. In the district between Evesham and Stratford-on-Avon many sections of the *A. planorbis* beds have been described, notably by Mr. R. F. Tomes, the Rev. P. B. Brodie and Dr. Wright. At Binton the lowest layer, known as the Guinea Bed (see p. 17), by its peculiar character seems to imply some amount of local interruption in the processes which deposited the lowest limestones and clays of the Lias, which usually follow the Rhætic without any break. At Wilmcote the lowest beds have been extensively quarried and have yielded *A. planorbis*, *A. johnstoni*, the crustaceans *Glyphea* and *Eryon* and also bones of saurians.

The Lower Lias limestones are exposed in the railway cuttings between Stratford-on-Avon and Easington and were described by Brodie.¹ Near the station north of Upper Easington, beds characterized by abundant specimens of *Lima* are exposed in a cutting some 60 feet deep; and at Kineton the cuttings show limestones and shales containing among other fossils *A. angulatus*, *Gryphæa arcuata* and several species of *Lima*; the beds here evidently belong to the zone of *A. angulatus*, which succeeds that of *A. planorbis*.

At Harbury are extensive lime and cement works in the same zone. In the adjacent railway cutting it appears that the zone of *A. planorbis*, usually rich in limestone bands, is represented by about 30 feet of blue clays and shales;² the overlying limestones have yielded remains of the saurians *Ichthyosaurus* and *Plesiosaurus*, the fish *Acrodus*, several species of ammonites, including *A. bucklandi*, together with lamellibranch shells and crinoids. Beyond Harbury the limestones of the zones of *A. angulatus* and *A. bucklandi* have been wrought at numerous localities towards Rugby.

The highest beds of the Lower Lias were formerly well exposed in the railway cutting south of Fenny Compton station, and have been

¹ *Quart. Journ. Geol. Soc.* xxx. (1874), 746.

² Woodward, *op. cit.* pp. 159, 160.

A HISTORY OF WARWICKSHIRE

described by Beesley.¹ They consist of shales with bands and nodules of limestone, and contain the zone ammonites *A. armatus*, *A. jamesoni* and *A. ibex*, as well as numerous belemnites, the dart-like internal hard part of a cuttle-fish.

Near Rugby the lowest beds of the Lower Lias were cut through by the Birmingham railway west of Church Lawford, and appear to consist of paper-shales instead of the usual limestones. But an excellent section of some 70 feet of the overlying limestones and clays belonging to the zones of *A. angulatus* and *A. bucklandi* is afforded by the Victoria quarry about a mile north-west of Rugby; the beds which are worked for blue lias lime and cement have yielded remains of saurians, with ammonites, lamellibranch shells and crinoids.² In a pit north of Newbold Grange the beds are folded up into a sharp saddle or anticline. Several brickyards about Rugby and Hill Moreton afford sections of higher divisions with *A. semicostatus*, *A. brevispina*, etc.; and a deep well south-east of Rugby proved 458 feet of Lower Lias beds.

The two outlying patches of Rhætic and Lias beds south-west of Henley-in-Arden and also that at Knowle have yielded various characteristic fossils, and the limestones were formerly worked. Insect limestones are present, and Brodie³ records that at Knowle the 'firestones' and 'guinea bed' were formerly quarried by a shaft and yielded the usual fossils, of which may be mentioned *A. planorbis*, *Ostrea liassica*, and bones of *Ichthyosaurus*.

By the close of the Lower Lias period the sea had become shallower, and we find that much sandy matter was deposited; this forms in part the Middle Lias. These beds consist of a lower series of bluish-grey micaceous marls and clays and laminated calcareous sands and clays with layers of limestone and calcareous sandstone; these softer beds are overlain by a rocky band of tough iron-shot and earthy limestone known as the Marlstone.⁴ The latter especially is rich in fossils, and *Ammonites spinatus* and *A. margaritatus* characterize the rock, the former being restricted to the higher beds. In addition to these ammonites there are several species of belemnites, a number of lamellibranchs, and the star-fish-like *Ophioderma egertoni* and *O. milleri*.

The Middle Lias enters the south-western edge of the county near Chipping Campden, where the Marlstone has been quarried at various points round Ebrington Hill; the whole group there attains a thickness of about 150 feet. In the direction of Stow-on-the-Wold however this becomes reduced, and the bold escarpment gradually disappears.⁵ It reappears however at Little Compton in the extreme south of the county, and thence can be followed north-eastwards towards Edge Hill. Sections in the Middle Lias were opened up during the construction of the tunnel on the Banbury and Cheltenham railway north of Chipping

¹ *Proc. Warwickshire Nat. Club* (1877), p. 1.

² Woodward, *op. cit.* p. 163.

³ *Quart. Journ. Geol. Soc.* xxi. (1865), 159; also xxx. (1874), 746.

⁴ Woodward, *op. cit.* p. 185.

⁵ Howell in Hull's 'Geol. of Cheltenham,' *Mem. Geol. Survey*, p. 19.

GEOLOGY

Norton, and according to Mr. Beesley the Marlstone was 11 feet thick, while the underlying shaly and sandy beds were 16 feet in thickness.¹ The lower beds yielded numerous fossils including fine specimens of *Cypricardia*.

North-west of Banbury the Marlstone rock bed is very well developed and forms a plateau which rises gradually from an altitude of 500 feet at that town to the famous escarpment of Edge Hill, 710 feet above sea-level. The rock forms a rich brown arable soil specially suitable for wheat growing. At Edge Hill the stone is a tough earthy limestone of brown and greenish hues, used for building, paving and road stone, and it has a thickness of 25 feet. There are large quarries on Burton Dassett Hill, a few miles to the north-east, while outliers of the beds occur at Bodington, Napton, and Upper Shuckburgh.

The Liassic sea now became deeper again, and we have the clayey series of the Upper Lias thrown down in the quiet waters. These beds consist chiefly of bluish-grey clay and shale with nodules of clayey limestone. The basement beds are pale earthy limestones, frequently nodular, and their junction with the Middle Lias is generally well marked. The organic remains include various fishes, and the ammonites *A. annulatus*, *A. fibulatus*, *A. serpentinus* and *A. communis*; belemnites occur, together with numerous bivalve shells, and several insects, notably some allied to the dragonflies.

Near Ilmington the thickness of the Upper Lias has been estimated by Mr. S. G. Hamilton at 120 feet; at the tunnel north of Chipping Norton, according to Mr. Beesley, it is about 36 feet, while near Banbury it increases to about 60 feet. It occurs in the form of numerous outliers and in valley bottoms northwards of Chipping Norton towards Tysoe, and Upper Lias fossils have been found by Mr. Brodie in crevices of the Marlstone rock bed on Edge Hill,² while still farther north there is an outlier of Upper Lias, capped by Northampton Sands, on the hills near Burton Dassett.

At the close of the Liassic period a shallowing of the sea appears to have set in, caused presumably by movements of uplift; the climate was warm and the waters of the sea were favourable to the existence of vast numbers of aquatic animals whose remains make up a large part of the succeeding Oolitic rocks.

The Inferior Oolite Series is found in outlying patches near Ilmington and also in the south of the county along the eastern side of the Vale of Moreton. The series consists of two sub-divisions, the Midford Sands below and the Inferior Oolite above.

The Midford or Cotteswold Sands form a passage bed between the Lias and the Oolites; the materials of which they are made up and the fossils found in them exhibit a gradual change from the conditions which prevailed during the formation of the Upper Lias to those under which the Oolites were deposited. The beds, 30 to 150 feet thick, consist of

¹ Woodward, op. cit. pp. 221, 222.

² Woodward, op. cit. p. 270.

A HISTORY OF WARWICKSHIRE

sandy strata with concretions of calcareous sandstone, and these are capped in the Cotteswold Hills to the south by a brown marly and ferruginous limestone, 4 to 16 feet thick, abounding in remains of cephalopoda—ammonites, belemnites and nautili—and hence known as the Cephalopoda Bed. The rocks are characterized by the ammonites *A. jurensis* and *A. opalinus*, and by the bivalve *Rhynchonella cynocephala*, the fauna belonging partly to the Lias and partly to the Oolite, or in Professor Phillips' words, 'before the Liassic life has come to an end the Oolitic life has begun.'

Around Ebrington Hill, on the western side of the Vale of Moreton, the Midford Sands are not exposed, being presumably concealed beneath the débris of the overlying beds. They are traceable however southwards along the edge of the main Oolite tract to the vicinity of Stow-on-the-Wold, but north-east of that locality they are not to be identified.

The Inferior Oolite consists of buff and brown oolitic and ferruginous limestone with local beds of clay, marl and sand.¹ The characteristic zonal ammonites *A. murchisonæ*, *A. humphriesianus* and *A. parkinsoni* have not been found in Warwickshire. The few fossils recorded include bivalve shells such as *Trigonia*, *Pecten* and *Terebratula*, and the sea-urchin *Clypeus ploti*.

The Inferior Oolite forms two small outliers on Ebrington Hill; the rocks there consist of yellow and brown sandy and oolitic limestone, often banded with iron compounds, and they have been wrought for freestone. It is evident that while the marine limestones were being laid down the area was invaded by currents bearing much sand in suspension; for Professor Judd records that in one section yellow and ferruginous sands of the type of the Northampton Sands can be seen to pass into oolitic limestone in a distance of 40 yards.²

Crossing to the eastern side of the Vale of Moreton it appears that the county boundary just includes some of the Inferior Oolite and Great Oolite strata in the form of outlying strips and patches, extending from Little Compton to the vicinity of Compton Winyate. The Inferior Oolite of this district comprises some very variable beds, consisting of calcareous sandstones and oolitic and sandy limestones, where the Cotteswold type passes into the Northamptonshire type. Our knowledge of this area is largely due to the researches of Messrs. T. Beesley, W. H. Hudleston, E. A. Walford, and J. Windoes. Portions of the Inferior Oolite and of the succeeding Great Oolite were grouped together on the Geological Survey map as Northampton Sand, but it is now known that this formation belongs to the lower part of the Inferior Oolite. North-east of Bright Hill (south of Long Compton) the Inferior Oolite is represented in part by the Clypeus Grit, the Northampton Sand below resting directly on the Upper Lias. It may be of interest to note that the standing stones north of Little Rollwright, known as the

¹ See H. B. Woodward, 'The Jurassic Rocks of Britain,' *Mem. Geol. Survey*, iv. 148.

² H. B. Woodward, *op. cit.* p. 142.

GEOLOGY

Rollwright or Rollerich Stones, are masses of one of the higher Inferior Oolite limestones distinguished as the Chipping Norton Limestone.¹

The county boundary just includes areas of the Northampton Sands south and east of Long Compton, near Whichford and near Epwell; and there are several small outliers in the same neighbourhood. According to Professor Judd, the beds forming these tracts consist of limestone, sands and ironstones. In the outlier west of Whichford, beds of white freestone are underlain by sands.²

The higher clayey and calcareous beds of the Great Oolite just enter the county in a long faulted strip east of Whichford, and again as an outlier, partly let down by faults, to the east of Compton Winyate. At Traitor's Ford east of Whichford the beds consist of marly limestone and oolite; while east of Compton Winyate they are very similar.³ The lowest beds usually consist of clay with *Ostrea* and *Gervillia*, and may represent the Upper Estuarine Series of the midland counties.

PLEISTOCENE AND RECENT

The deposits in our district which next succeed to those last described are certain irregular patches of sand, gravel, and stony clay which lie sporadically over the edges and fill up hollows in the surface of the older rocks. They belong to a time so long subsequent to the formation of the Oolitic beds that during the interval the Upper Jurassic rocks and some of the Cretaceous were not only deposited to the thickness of several thousand feet over a slowly sinking sea bottom, but were subsequently by gradual upheavals of the earth crust raised above the sea-level and worn down by rain and rivers to a surface configuration much the same as obtains at the present time. Over the irregular land surface so produced were strewn the glacial deposits or Drift, the products of glaciers and ice-sheets which at this time spread over much of the northern hemisphere. By the combined influence of astronomical causes and geographical changes the temperature had become reduced; the moisture falling on the earth's surface accumulated as snow; the separate tracts of permanent snow invaded the intermediate ground till at the maximum much of the northern hemisphere was buried under a thick pall of ice, which over Britain extended as far south as the valley of the Thames.

As has been shown by the researches of local glaciologists—notably Dr. Crosskey, D. Mackintosh, and Mr. W. J. Harrison—the Midlands were the meeting-place of three great glaciers;⁴ one descended from the Arenig mountains in north Wales and entered our district by way of the Vale of Llangollen and the plain of Shropshire, scattering blocks of Arenig rocks about the country between Birmingham and Bromsgrove. The second or Irish Sea Glacier was made up of confluent ice-flows from the

¹ H. B. Woodward, op. cit. pp. 151-2.

² H. B. Woodward, op. cit. p. 156.

³ H. B. Woodward, op. cit. pp. 333, 335.

⁴ For an excellent summary on the Glacial Geology of the Birmingham District see W. J. Harrison, *Proc. Geol. Assoc.* xv. (1898), 400.

A HISTORY OF WARWICKSHIRE

south of Scotland and the Lake District ; it extended in the direction of Warwickshire as far south as Lichfield, and all along its terminal line—notably in the neighbourhood of Wolverhampton—are found great numbers of granite and other boulders. The third or North Sea Glacier issued from the North Sea, and part of it invaded the Yorkshire coast, passed over the Lincolnshire chalk country, and made its way inland to the high ground of Charnwood Forest. Here it seems to have divided to some extent into lobes; one travelling southwards by Leicester and Rugby got as far as the valley of the Thames, while another made its way to the south-west into the Avon valley, leaving abundant traces in the form of chalk débris and pieces of flint scattered over the surface or embodied in its gravelly and clayey deposits even as far as the vicinity of Chipping Campden.¹ Traces of the débris carried by all these ice-flows have been met with in our district, though our knowledge of these deposits so far as Warwickshire is concerned is at present very incomplete, for no one observer has investigated the whole of them, and their superficial limits have only very partially been determined.² We are therefore compelled to treat the subject more or less bibliographically.

One of the earliest investigators was Buckland,³ who noticed the abundance of gravel containing well rounded quartzite pebbles scattered over the surface of the Midlands at various localities extending eastwards and southwards of the Lickey district in north Worcestershire, particularly at Coleshill and along the Lias plain near Shipston-on-Stour. He traced these gravels down the Avon valley from Stratford to Evesham and thence eastwards by Kineton, with prolongations southwards along the Cherwell and Evenlode valleys. He recognized that these gravels were largely derived—as he thought by the waters of the ‘deluge’—from the Bunter pebble beds of the Trias. At the same time he recorded the occurrence of fragments of igneous and metamorphic rocks with chalk and chalk flints, while south-east of Shipston-on-Stour he noted pieces of red chalk like that of Lincolnshire. These early observations alone are sufficient to show that some form of transportive agency entered the district from two different directions: from the north-east, and from the north or north-west.

Strickland⁴ made some valuable observations on the drifts of the district; he pointed out that they are divisible into several types: first is the *quartzose* drift which occurs on some of the hill tops, contains no mammalian remains, and was apparently derived from the north. The second or *flinty* type (equivalent probably to the chalky boulder clay) is very prevalent in the east of the county and near Rugby, extending thence along the base of the Oolite hills to the Vale of Shipston; it covers some of the hills to a considerable depth, contains many chalk

¹ See G. E. Gavey, *Quart. Journ. Geol. Soc.* ix. (1853), 29; also H. B. Woodward, *Geol. Mag.* (1897), p. 485.

² For a very full list of papers on this subject see ‘A Bibliography of Midland Glaciology,’ by Mr. W. J. Harrison in *Proc. Birm. Nat. Hist. and Phil. Soc.* ix. (1895), 116.

³ *Trans. Geol. Soc.* v. (1821), 506.

⁴ *Memoirs of Hugh E. Strickland* (8vo, Lond. 1858), p. 90.

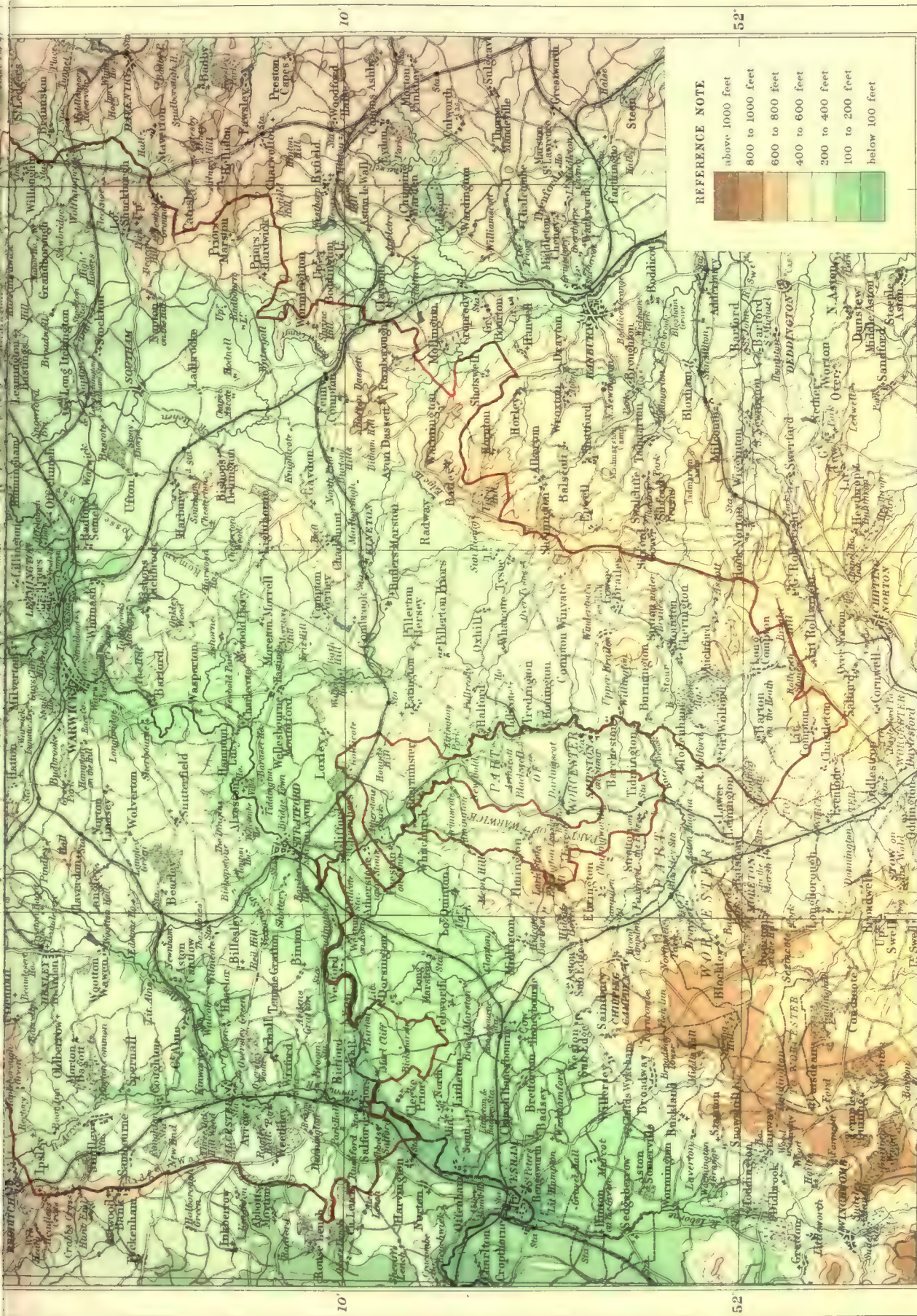


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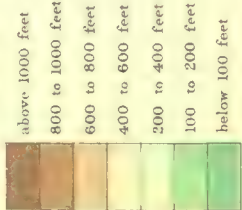
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REFERENCE NOTE



THE VICTORIA HISTORY OF THE COUNTIES OF ENGLAND

County Boundary shown thus

SCALE 4 MILES TO AN INCH

THE VICTORIA HISTORY OF THE COUNTIES OF ENGLAND

THE VICTORIA HISTORY OF THE COUNTIES OF ENGLAND

GEOLOGY

flints, and was apparently derived from the north-east and east. The third or *local* drift lies at the foot of some of the Oolitic hills and appears to be made of exclusively local materials. Lastly comes the *fluvial* type, a mixture of the other three; it occurs in patches along the Avon valley and is traceable from Lawford to Defford at heights ranging up to 40 feet above the river, and is the only drift containing organic remains of contemporaneous origin; from it have been obtained shells of mollusca and bones of mammalia at various places, including Lawford and Shotton, at the latter of which were found teeth of elephants.

Brodie's papers added much to our knowledge, and he has recorded details¹ of an extensive deposit of drift over the tableland lying to the north-west of Warwick and extending thence in the direction of Birmingham. Occasional large rounded boulders of sandstone occur, but generally the pebbles are small and consist of sandstone and quartz. Flints are present, especially at Hazeley and Hatton, 'where masses of large unrolled flints occur, looking as fresh as if they had lately come from a chalkpit.' At Rowington the soil of a small field contained little bits of very hard chalk rounded and scratched, and there were present also flints, pieces of greensand, and fragments of various Jurassic rocks, together with Carboniferous sandstone with plant remains, and several boulders of igneous rocks such as granite and syenite. The Lias outlier of Brown's Wood, south-west of Henley-in-Arden (see p. 18), is covered with drift derived from districts lying to the north. At the same time Brodie pointed out that fossils similar to those then recently found in the Lower Silurian pebbles of the Trias of Budleigh Salterton in Devonshire are to be found in some of the quartzose pebbles of the Warwickshire drift, and this observation has since been confirmed by Mr. W. J. Harrison.²

Mr. T. G. B. Lloyd³ in 1870 recorded certain observations on the drift of the Avon valley and pointed out the occurrence on the higher ground of a bed of chalky boulder clay, a stiff compact mass of sandy unstratified clay or earth, from slaty-blue to purple in colour, full of grooved and striated pieces of Lias limestone, white chalk, quartzite pebbles, flints and syenite boulders. This seems to be specially prevalent over the outcrop of the Lias, changing its colour to red where it overlies the Trias. Associated with this typical boulder clay are irregular and impersistent beds of sand and gravel. On the lower grounds are beds of quartzose flinty gravel and local drift containing shells and bones of mammals. Chalky boulder clay to a depth of 30 feet has been described by Mr. W. Andrews⁴ as occurring in a railway cutting at Berkswell.

The deposits of the neighbourhood of Rugby have been described by Mr. J. M. Wilson⁵ under two heads—high level deposits and valley

¹ Brodie, *Quart. Journ. Geol. Soc.* xxiii. (1867), 208.

² *Proc. Birm. Phil. Soc.* (1882), p. 157.

³ *Quart. Journ. Geol. Soc.* xxvi. (1870), 202.

⁴ *Proc. Warw. Field Club*, 1884.

⁵ *Quart. Journ. Geol. Soc.* xxvi. (1870), 192.

A HISTORY OF WARWICKSHIRE

deposits. The former occupy the Lias plateau south of Rugby, and at various localities appear to consist of 10 to 20 feet of gravel and sand with beds of stony clay. From Rugby to Lowmorton the surface deposits consist of about 13 feet of gravel lying on clayey sand, and a cutting on the London and North-Western railway showed a few feet of gravel and sand overlying stony clay chiefly derived from the Lias, and containing well striated pieces of Lias limestone, chalk and flint. In and about Rugby gravel and sand are exposed in various pits.

At Exhall, north of Coventry, a deposit of clay and sand up to 75 feet thick has been described by Mr. A. Startin¹ as extending in a narrow band southwards from Griff to Foleshill; boulders of igneous rocks and sandstone occur at the bottom of the mass. To the west of this the surface soil contains much angular *débris* derived from the Hartshill Quartzite of Nuneaton. West of the high 'Permian' ground of Corley rounded quartzose (Bunter) pebbles become common, while on the other hand about Bulkington and Wolvey, Liassic fossils are to be found. Here again we have evidence of one movement from the north and another from the north-east or east.

In addition to these spreads of gravel, sand and boulder clay which occur irregularly over the surface of the county, we occasionally come across large and conspicuous blocks of rock which have evidently travelled far from their parent beds. The larger of these 'boulders' have always attracted notice. Few however seem to have been recorded in Warwickshire. Several of granite and felstone occur on the western confines north of Birmingham, and have been noted by the Rev. J. Caswell² of Oscott College; and at Stockton, some few miles east of Warwick, a Charnwood granite boulder nearly 2 tons in mass and measuring 4 feet across has been enclosed and inscribed.³ Mr. W. J. Harrison has noted two boulders in the village of Sherbourn south of Warwick; one is a mass of Millstone Grit 29 inches across, the other of granite, 38 inches; while the same observer has recorded a small boulder of quartzose material at Exhall several miles west of Stratford-on-Avon.⁴

Certain small tracts of drift in the north of the county fall within the area of the Atherstone sheet⁵ of the Geological Survey map, and have been mapped and described by Mr. C. Fox-Strangways. There are gravel patches at Warton and Shuttington composed of pebbles without any admixture of eastern rocks; they seem to have been derived chiefly from the Bunter pebble beds. Boulder clay, somewhat of the nature of brickearth and containing sandy and loamy bands, extends southwards from Market Bosworth towards Hinckley, just beyond the north-eastern edge of the county, and at the last named town it is stated

¹ *Proc. Warw. Field Club* (1866), p. 26.

² *Rep. Brit. Assoc.* for 1877 (pub. 1878), pp. 82, 83.

³ Rev. W. Tuckwell, *Rep. Brit. Assoc.* for 1886 (pub. 1887), p. 627.

⁴ *Rep. Brit. Assoc.* for 1890 (pub. 1891), p. 340.

⁵ New series, sheet 155, showing Drift, by C. Fox-Strangways (1899); see also the accompanying Memoir, p. 37 et seqq.

GEOLOGY

to be 150 feet thick. Mr. W. J. Harrison thinks this loamy deposit was laid down in an old ice-dammed lake.¹

The soft rocks of Warwickshire are not such as would receive or retain ice scratches during the glaciation; but a few cases have been recorded of a crumpling and disturbance of the surface beds probably by the passage of the ice. At Small Heath near Birmingham an exposure of the Keuper Marls showed evidence of the passage of a heavy body over the surface; streaks of red marl had been torn off and embedded in the superjacent drift, and the uppermost beds of the marl were puckered and bent.² Again, according to Mr. A. H. Atkins,³ at Garrison Lane near Birmingham 20 feet of tenacious clay, probably drift, rests on an indurated, smoothed and polished surface of the Keuper Marl.

The late Dr. Crosskey⁴ described a section between Key Hill and Hockley Hill in Birmingham where boulder clay rested on Triassic sandstone which had been greatly broken and disturbed and large fragments of it torn off and embedded in the drift. Mr. C. J. Woodward has described disturbances known as 'swilleys,' and possibly glacial, in the Lias at Binton and Grafton,⁵ and a smoothing and polishing of the 'Permian' sandstone under the drift near Coventry has been recorded by Mr. F. T. Maidwell.⁶

As the climate of the country gradually ameliorated the ice melted and gave rise to much flood water, which redistributed much of the older drift and laid it down along the bottoms of the valleys; subsequent erosion by the river has removed much of the infilling and left only strips along the sides in the form of river terraces. It is in these old gravels, sands and loams that the remains of early man and the animals with which he was associated first appear. This fluvial drift of the Avon valley as already noted (p. 25) has yielded teeth of the elephant at Shotton, and at Newnham near Church Lawford west of Rugby were found in 1815 two skulls and other bones of rhinoceros, tusks and teeth of elephant, and horns and bones of stag and ox, at 15 feet from the surface, in clayey gravel.⁷ According to Professor Boyd Dawkins⁸ the mammalia from the freshwater deposits of the Avon valley include wolf, hyæna, reindeer, stag, bison, hippopotamus, boar, horse, rhinoceros, elephant and mammoth.

But undoubtedly the most interesting discovery from our present point of view is that of quartzite implements found in 1890 by Mr. J. Landon in the old gravels of the Rea valley at Saltley near Birmingham. They have been noted (and one is figured) by Sir John Evans.⁹ The

¹ Harrison, *Proc. Geol. Assoc.* xv. (1898), 400.

² W. J. Harrison, *Proc. Birm. Phil. Soc.* iii. (1882), 157.

³ *Mid. Nat.* (1883), p. 230; also *Rep. Birm. Nat. Hist. and Mic. Soc.* (1883), p. 1.

⁴ *Proc. Birm. Phil. Soc.* (1882), p. 209.

⁵ *Proc. Birm. Nat. Hist. and Mic. Soc.* (1870), p. 63.

⁶ *Proc. Warw. Nat. and Arch. Field Club* (1895), p. 47.

⁷ Buckland, *Reliquiæ Diluvianæ*, ed. 2 (1824), pp. 176, 177.

⁸ *Quart. Journ. Geol. Soc.* xxv. (1869), 192.

⁹ *Ancient Stone Implements*, ed. 2 (1897), pp. 578-81, and fig. 450a.

A HISTORY OF WARWICKSHIRE

valley of the Rea at Saltley runs about north-north-east and is nearly a mile wide. Stretches of gravel occur on both sides of the valley at various levels, especially on the south-eastern side. The highest and oldest gravels are exposed in a claypit close to Saltley College and are about 3 feet thick; the gravel here consists of small quartzite pebbles, some larger pebbles and a few broken flints in a light-brown sandy matrix; this overlies 3 or 4 feet of glacial clay and sand, and this in turn rests on the Keuper Marls which are dug for brick making. It was at the base of the gravel that the quartzite implements were found.

The more recent alluvial deposits along the bottom of the present valleys, made up of flood material and the occasional peat growths, yield remains of man and animals of a later date than those of the old terraces, and conduct us to a point in the history of Warwickshire where the archæologist takes up the story.

PALÆONTOLOGY

PALÆONTOLOGICAL interest, so far at least as vertebrated animals are concerned, is concentrated in Warwickshire on the remains of fishes, amphibians and reptiles from the Keuper division of the Trias, of which a splendid series are preserved in the museum at Warwick. Coten (or Coton) End, near Warwick, Shrewley, Cubbington and Leamington are well known localities for these fossils, many of which are peculiar to the county, while the others are restricted to a few localities in Britain. The amphibian remains belong to that early group known as labyrinthodonts, the more typical representatives of which are characterized by the peculiar and complicated infoldings of the outer layer of the crowns of their teeth, whereby a characteristic pattern is produced in the interior which is best displayed in transverse section. The bones of the head, as well as those forming the chest-shield of these lowly creatures, are also characterized by a distinctive sculpture, recalling that on the skulls and scutes of modern crocodiles. The Warwick Museum is especially rich in the remains of these labyrinthodonts, which have been described by Huxley, Miall, Owen and others. Among the collectors of Warwickshire Triassic vertebrates may be especially mentioned the late Rev. P. B. Brodie, who published two papers in the *Quarterly Journal of the Geological Society*¹ on the fish and other remains from Shrewley and other localities. Commencing with the fish remains from the Keuper, the first form to be noticed is a shark originally described in 1840 by Murchison and Strickland on the evidence of teeth from Pendock in Worcestershire as *Hybodus keuperinus*, but assigned in the British Museum Catalogue of Fossil Fishes² to the genus *Acrodus*. Similar teeth occur at Shrewley and Rowington. From the evidence of a hybodont spine from Shrewley, which may belong to the same form, Dr. A. S. Woodward³ has recently expressed the opinion that this fish may have to be assigned to a distinct genus, under the name of *Liacanthus*. Of special interest is a much more primitive type of shark, belonging to the Palæozoic group Ichthyotomi, described by Dr. Woodward⁴ on the evidence of teeth obtained by Mr. Brodie from Shrewley under the name of *Phæbodus brodiei*. Another tooth is known from the Worcestershire Keuper.⁵ From the Keuper

¹ Vol. xliii. 540 (1887), and xlix. 171 (1893).

² Part i. p. 281.

³ *Ann. Mag. Nat. Hist. ser. 6*, xii. 283 (1893).

⁴ *Op. cit.*

⁵ In the 'Palæontology' of Worcestershire it is stated that only two teeth are known.

A HISTORY OF WARWICKSHIRE

formation a tooth of a lung-fish was described in 1898 by Professor L. Miall as *Ceratodus lævissimus*, being supposed to represent a new species. In the British Museum Catalogue of Fossil Fishes¹ it was identified with the continental *C. kaupii*, but a tooth in Mr. Brodie's collection subsequently led Dr. Woodward² to believe that the original determination was correct. If this be so, *C. lævissimus* is known only by one tooth from Ripple in Worcestershire and a second from Shrewley. The genus, it may be mentioned, survives in Queensland in the form of the barramunda or Burnet salmon (*C. forsteri*).

Another survival of a Palæozoic type in the Warwickshire Keuper is a fish originally described as *Palæoniscus superstes*, but now known as *Dictyopyge superstes*. It was described by the late Sir Philip Egerton on the evidence of the imperfect trunk of a fish in Mr. Brodie's collection. The same collection has afforded evidence of a species of the widely spread Triassic genus *Semionotus* which appears peculiar to the Warwickshire Keuper, and has been named *S. brodiei* by Mr. E. T. Newton.³

To the same family (*Semionotidæ*) belongs a fish from the Lower Lias of Stratford-on-Avon, described as long ago as 1835 or 1836 by Agassiz on the evidence of a nearly complete specimen, of which all trace has now unfortunately been lost. A small fish belonging to a totally different family (*Eugnathidæ*) originally described by the writer last mentioned on the evidence of a specimen from Barrow-on-Soar, Leicestershire, as *Eugnathus hastingsiæ* (in honour of the then Marchioness of Hastings) is also apparently represented in the British Museum collection by an imperfect specimen from the Lower Lias of Wilmcote near Stratford-on-Avon.

Passing on to the consideration of the labyrinthodont remains, perhaps the most interesting is the unique skull in the Warwick Museum from the Permian of Kenilworth described in 1849 as *Labyrinthodon bucklandi*, but made the type of a new genus by Huxley in 1859 as *Dasyceps bucklandi*. The animal to which it belonged was apparently allied to the Carboniferous genus *Anthracosaurus*. An excellent description of the Keuper labyrinthodonts of the county will be found in a paper by Professor L. C. Miall published in the *Quarterly Journal of the Geological Society*.⁴ These are referred to four species, namely *Mastodonsaurus giganteus*, *M. pachygnathus*, *Labyrinthodon leptognathus* and *Diadetognathus varvicensis*. Of these the first, if rightly identified, is common to the Keuper of the continent, but the other three are peculiar to the county. Nor is this all, for the generic name *Labyrinthodon* owes its name to a Warwickshire specimen, as also does *Diadetognathus*, the former having been proposed by Owen in 1841, and the latter by Miall in 1874. The names *Labyrinthodon lanarius* and *L. ventricosus* have also been applied by Owen to labyrinthodont teeth in the Warwick Museum, but the generic affinity of these is doubtful. Yet another form, from the Keuper of Leamington, was named by Owen *Labyrintho-*

¹ Part ii. p. 270.

² Ibid. p. 282.

³ *Quart. Journ. Geol. Soc.* xliii. 439 (1887).

⁴ Vol. xxx. 417 (1874).

PALÆONTOLOGY

don scutulatus, a name subsequently changed to *Rhombopholis scutulata*, the type specimen being an imperfect skeleton in the Warwick Museum. Professor Miall has expressed doubts as to the labyrinthodont nature of this specimen.

Further evidence of the presence of labyrinthodonts in the Keuper of the county is afforded by footprints in the sandstone, which are commonly known by the name of *Chirotherium* or *Chirosaurus*,¹ although they were made in all probability by *Mastodonsaurus*, *Labyrinthodon*, etc. In this connection it may be well to mention that these footprints were originally supposed to have been made by animals resembling huge frogs or toads; and in old works on geology and palæontology restorations of *Labyrinthodon* on this model are shown. Such restorations are however altogether erroneous, these ancient amphibians corresponding in general bodily form much more nearly with the salamanders of the present day.

Of the remains of reptiles from the Keuper of Warwickshire the earliest described appear to be certain teeth from Coten End, Leamington and Warwick, which were named *Cladyodon lloydi* by Sir Richard Owen in 1841. Teeth from the same quarries subsequently examined by Huxley² were found to be very similar to others from Bristol described as *Palæosaurus cylindrodon*, and were provisionally assigned to the same genus if not the same species. This reptile was evidently an early representative of the Dinosauria, but the exact relationship of the animal indicated by the teeth for which the name *Cladyodon* was proposed must for the present remain uncertain. Other dinosaurians from the Warwickshire Trias include a species of the genus *Thecodontosaurus* (first described on the evidence of specimens from Bristol) and another of *Zanclodon* (*Teratosauros*). But this does not exhaust the list of Triassic reptiles found in the county. In 1869 Huxley³ stated that a peculiar reptile described by himself under the name of *Hyperodapedon gordoni* was represented in the quarries at Coten End, and in 1893 Mr. Brodie⁴ announced the discovery of a nearly perfect jaw of the same creature at this locality. *Hyperodapedon*, it may be mentioned, is a Triassic ally of the tuatara lizard (*Sphenodon punctatus*) of New Zealand, which is the sole living representative of the order Rhynchocephalia. In the extinct genus, of which remains are abundant at Maleri in Central India, the palate was covered with a number of longitudinal rows of stout conical teeth, between two of which worked the single row surmounting the lower jaw.

Although apparently less numerous than in the corresponding formation of Leicestershire, remains of the two great groups of marine Secondary reptiles respectively known as ichthyosaurs and plesiosaurs occur in the Lower Lias of the county, nearly complete skeletons being met with from time to time. Of the ichthyosaurs, or the group in which the head is large, the neck short, and the bones of the paddles quadrangular, the species *Ichthyosaurus intermedius* and *I. platyodon* have been recorded from the neighbourhood of Stratford-on-Avon, and there may be others.

¹ *Quart. Journ. Geol. Soc.* xvi. 278, xlix. 173.

² *Ibid.* xxvi. 46 (1869).

³ *Op. cit.*

⁴ *Ibid.* xlix. 173, note.

A HISTORY OF WARWICKSHIRE

A magnificent skeleton of the species last mentioned was obtained at Stockton in 1898,¹ and is now in the British Museum. The plesiosaurs, as represented by the genus *Plesiosaurus* in the Lias, differ by the relatively smaller size of the head, the longer neck, and the more normal form of the bones of the paddles, as well as by many other structural features. The writer has not met with any account of the species found in the Warwickshire Lias.

The next horizon in the county where vertebrate remains of any importance have been recorded is a Pleistocene deposit of alluvial silt at Little Lawford near Rugby, from which bones and teeth of mammals were brought to the notice of the late Dean Buckland in 1815. The deposit appears to run continuously along the Avon valley from Rugby to Tewkesbury in Gloucestershire. The following species (with certain emendations of nomenclature) were recorded from Lawford by T. G. B. Lloyd² in 1870, namely the Pleistocene variety of the spotted hyæna (*Hyæna crocuta spelæa*), the wolf (*Canis lupus*), the Pleistocene bison (*Bos priscus*), the red deer (*Cervus elaphus*), the reindeer (*Rangifer tarandus*), the Pleistocene race of the hippopotamus (*Hippopotamus amphibius major*), the wild boar (*Sus scrofa*), the wild horse (*Equus caballus fossilis*), the woolly rhinoceros (*Rhinoceros antiquitatis*), the mammoth (*Elephas primigenius*), and the straight-tusked elephant (*E. antiquus*). Assuming all the species to be correctly determined, the list is of special interest as showing the association in the same area of forms now so widely separated as the reindeer and the hippopotamus.

¹ See *Report Rugby School Nat. Hist. Soc.* for 1889, p. 50, where a plate of this specimen is given.

² *Quart. Journ. Geol. Soc.* xxvi. 215.



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BOTANY

IN treating of the flora of a county, it is well to refer not only to that which is now prevalent; but also, so far as knowledge serves, to that which has prevailed in the past, but whose existence has become impossible owing to altered surroundings. In few of our midland counties have the changes incidental to the growth of population been more marked than in Warwickshire. A glance at a map of the county, and a study of the names of localities, will show that formerly heaths, wastes, commons and marshes existed, indeed were extensive in all parts of the county; and the records of the older botanists show that plants characteristic of such localities, though now in many cases either extinct or very rare, were then of more frequent occurrence; but heaths, wastes and commons have been enclosed and reclaimed, marshes and bogs drained, and the only portions of the county which at the present time really represent these past conditions, are some of the wilder portions of Sutton Park; for here we have the lingering remains of a flora which was once widespread, such as the cranberry, *Vaccinium oxycoccos*; the whortleberry, *V. Vitis-Idæa*; the black crowberry, *Empetrum nigrum*; the grass of parnassus, *Parnassia palustris*; and the rare sedge *Carex Ebrartiana*, now its only British home. The distribution of plants is to a certain extent determined by climate; proximity or otherwise to maritime influences, altitude, and by the general character of its rocks, whether igneous, calcareous or sandstone. The insular position of Warwickshire, and the absence of any great irregularities in its surface produce a mildness of climate; while it is free from the disturbing influences of either sea or mountain. Although everywhere undulating beautifully, the greatest altitude is only 855 feet above sea-level, and the average altitude about 380 feet above the sea, or well within the lowest zone of climatic influence. Its rocks are varied, beginning with the Cambrian and ending with the Inferior Oolite, but these are often in a degree obscured by the sands, gravels and clays of the drift, and these deposits materially affect the character of the flora. Throughout its area Warwickshire is well covered with trees, many of the woods being extensive, probably remains of the Great Forest of Arden, and are often rich in characteristic plants, as in the well-wooded district around Atherstone and Hartshill. Here is found the rare wood

A HISTORY OF WARWICKSHIRE

vetch, *Vicia sylvatica* ; the field bell-flower, *Campanula patula* ; the yellow bird's-nest, *Hypopithys multiflora* ; and the rare bramble, *Rubus Bloxamianus*. In the valley of the Sow around Combe and Brinklow are spreading woodlands rich in well-grown timber, and of interest to the botanist as yielding the rare bastard pimpernel, *Centunculus minimus* ; the beautiful water avens, *Geum rivale* ; its still rarer ally, *G. intermedium*, and the luscious fruited bramble, *Rubus Balfourianus*. The valley of the Leam has in parts quite a forest-like character ; many of its woods being of great extent and the homes of wild plants which are worth notice, such as the white beam, *Pyrus Aria* ; the gromwell, *Lithospermum officinale* ; the butterfly orchis, *Habenaria chlorantha* ; and the beautiful lily-of-the-valley, *Convallaria majalis*. In the southern portion of the county, in the pretty valley of the Stour are the forest-like woodlands around Wolford, Whichford and Long Compton, which like the country around possess a flora very heathlike in general character, but also yield among other interesting plants the rare wood chickweed, *Stellaria umbrosa* ; the dwarf cherry, *Prunus Cerasus* ; the scented agrimony, *Agrimonia odorata* ; the tawny sedge, *Carex fulva* ; and the throatwort, *Campanula latifolia*.

In the basins of the Arrow and the Alne are the extensive woods around, Ragley, Oversley, and Henley-in-Arden, some of which have been made historic by Purton's work recorded in his valuable *Midland Flora*. The soils about this portion of the county are mostly clay loams resting on marl and limestone, and the flora is mostly that appertaining to calcareous soils such as the traveller's joy, *Clematis Vitalba* ; the wood crane's-bill, *Geranium sylvaticum* ; the spindle tree, *Euonymus europæus* ; the everlasting pea, *Lathyrus sylvestris* ; the soft-leaved rose, *Rosa mollis* ; the wild service-tree, *Pyrus torminalis* ; the wayfaring tree, *Viburnum Lantana* ; and the beautiful clustered bell-flower, *Campanula glomerata*. In the northern portion of the county the woods are usually small, the subsoil frequently of a peaty nature, and the undergrowth for the most part some of the more common grasses, an abundant growth of the bilberry, *Vaccinium Myrtillus* ; some of the more common ferns as *Lastræa dilatata* ; the black alder, *Rhamnus Frangula* ; now and again herb Paris, *Paris quadrifolia* ; and a rich display of the beautiful bluebell, *Scilla nutans*. There are no lakes in the county, but some of the pools are large, like lakes in character, of ancient date, and yield some of our rarest plants. Such as Packington Pool ; here is the white water-lily, *Nymphæa alba* ; the flowering-rush, *Butomus umbellatus* ; and the floating burr-reed, *Sparganium minimum* ; near this are the pools at Merecote and Olton Mill, where are the pondweeds, *Potamogeton rufescens* and *P. pusillus* ; and the fine lake-like reservoir at Olton, where is found the rare water-wort, *Elatine hexandra*, and the shore-weed, *Littorella lacustris*. Other extensive pools occur at Combe Abbey, Stoneleigh, Wormleighton and Farnborough ; here is the water crowflower, *Ranunculus trichophyllus* ; and the sweet flag, *Acorus Calamus*. But the most interesting pools from a botanical point of view are those of Chesterton, Itchington Holt and Southam Holt, for here we find the few plants of the county which have

BOTANY

maritime affinities. The waters of these pools have a brackish taste, and are partly fed by salt springs ; and the plants that make their home in their vicinity are usually lovers of maritime surroundings. These are the golden dock, *Rumex maritimus* ; the sea club-rush, *Scirpus maritimus* ; the glaucous club-rush, *S. Tabernæmontanus* ; the loose sedge, *Carex distans* ; and the celery, *Apium graveolens*.

A comparison may here be made between the flora of Warwickshire and that of the neighbouring counties of Oxfordshire, Northamptonshire, Leicestershire, Staffordshire, Worcestershire, and Gloucestershire. The total flora of Warwickshire consists of about 905 species, including the ferns, club-mosses, pillworts, horsetails and charas. As the total for Great Britain is 1,958, it will be seen that Warwickshire yields only about one-half that number. From its central position it naturally possesses a large percentage of the common or British type, viz., 501 out of 532 ; of southern or English type more than two-thirds ; about one-fourth the eastern type ; one-ninth the western type ; and one-tenth of the northern type of the British flora. There are in Warwickshire, 101 plants not recorded for Oxfordshire ; 134 not recorded for Northamptonshire ; 68 not recorded for Leicestershire ; 67 not recorded for Staffordshire ; 55 not recorded for Worcestershire ; and 78 not recorded for Gloucestershire.

There are in Oxfordshire 42 not recorded for Warwickshire ; in Northamptonshire 32 not recorded for Warwickshire ; in Leicestershire 23 not recorded for Warwickshire ; in Staffordshire 56 not recorded for Warwickshire ; in Worcestershire 48 not recorded for Warwickshire ; and in Gloucestershire 92 not recorded for Warwickshire.

The botanical districts into which the county has been divided are based on the river drainage, and are those adopted in my *Flora of Warwickshire*. They are (1) the Tame, (2) the Blythe, including the Cole, and (3) the Anker, all forming part of the basin of the Trent ; (4) the Avon, (5) the Leam, (6) the Sow, (7) the Stour, (8) the Alne, (9) the Arrow ; all forming part of the basin of the Severn ; (10) the Cherwell which drains into the Thames.

I. THE TAME

The Tame rises near Bloxwich in Staffordshire and enters Warwickshire north of Birmingham at Witton, a brook-like stream abounding in the long trailing stems of *Ranunculus fluitans* ; thence it flows eastward, past Castle Bromwich and Water Orton ; where is found the rare star of Bethlehem, *Gagea lutea* ; receiving on its left bank contributory streams from Sutton Park and the surrounding country ; continuing in an easterly direction past Hams Hall the river Blythe flows into it on the right bank, and near this also the little river Bourne which drains a wide extent of country around Astley, Whitacre and Baxterley ; a little further on its course is abruptly diverted northward past Kingsbury and

A HISTORY OF WARWICKSHIRE

Dosthill to the north side of Tamworth, where it receives the Anker, and passing under Lady Bridge, enters Staffordshire and joins the Trent near Croxall.

2. BLYTHE AND COLE

The Blythe rises on the high land forming the western boundary of the county at an elevation of 585 feet above sea-level and flows through Earlswood reservoir to Waring's Green, where it receives streams draining a wide stretch of the surrounding country. Here it is a small stream often choked with water-loving plants such as the water honewort, *Sium inundatum*. Its course is now north-west through low-lying meadows, gay with the beautiful daffodil, *Narcissus Pseudo-narcissus*; and under Blythe Bridge, past Escole Hall. Thence the river flows south-east past Temple Balsall, where it is fed by streams draining Packwood and the surrounding country. At this point its course is again diverted northward through Bradnocks Marsh, now a well cultivated district, through the beautiful Packington Park, and east of Coleshill, past the historic Blythe Hall to its confluence with the Tame near Hams Hall. The Cole enters the county at an elevation of about 500 feet near the source of the Blythe, and after flowing for a short distance in a north-easterly direction, forming the boundary between Worcester and Warwickshire, re-enters the county near Sheldon Hall and has a sinuous easterly course past Chelmsley Wood, passing under a bridge richly covered with the spleenwort, *Asplenium Trichomanes*; thence meandering northwards through Coleshill Park and the lower portion of Coleshill to its confluence with the Blythe near Blythe Hall. Like the Blythe its whole course is through low-lying meadows which are liable to be flooded.

3. THE ANKER

The Anker has its origin from the confluence of several small streams draining Bulkington, Wolvey and Burton Hastings. It takes a north-west course through Attlebury fields and Chilvers Coton, and receives on its left bank a stream which drains a large area of the coal measures around Bedworth, Chilvers Coton and Nuneaton. Pursuing its way northwards, the Anker flows through Nuneaton, Caldecote and Mancetter. Passing Atherstone on its east side, it flows on north-west through Grendon Park, and west through Polesworth. After this its course is very winding, making considerable curves north and south before reaching its confluence with the Tame near Lady Bridge. The distance from its rise to its mouth is about twenty-five miles. It is everywhere a pretty stream, very like a brook in character, fringed with those lovers of watery surroundings, the arrow-head, *Sagittaria sagittifolia*; the flowering-rush, *Butomus umbellatus*; the sweet forget-me-not, *Myosotis palustris*; and trailing in its waters the rare water starwort, *Callitriche obtusangula*, and the rarer endemic species, *Ænanthe fluvialis*.

BOTANY

4. THE AVON

The Avon rises near Naseby in Northamptonshire and enters Warwickshire near Clifton. It has a meandering course a little north of Rugby, flowing past Lawford and Brandon, receiving on its left bank streams draining the surrounding country. Passing near Ryton-on-Dunsmore and Bubbenhall, it flows through the grounds of Stoneleigh Abbey; here it receives on its right bank the river Sow, and taking its course by Ashow, flows on through the romantic grounds of Guy's Cliff. Near here at Emscote it receives the important tributary the Leam, and passing near the walls of Warwick Castle, flows through Warwick Park. From Warwick Park the Avon flows near Barford to Sherbourne, where it receives waters from Norton Lindsay and the country around; flowing on near Hampton Lucy its stream is augmented by Thelesford Brook, a little stream from Wasperton Hill. The little river Dene, a stream originating from the drainage of Burton Dassett and Edge Hills, and bringing waters from the surrounding district, flows into it as it winds through the beautiful grounds of Charlecote. From Charlecote the Avon flows through Alveston and Stratford-on-Avon, and a little below Stratford on its left bank is joined by the river Stour; thence flowing under Binton Bridges and by Bidford, it receives on its right bank the rapid-flowing Arrow, and a little below Salford Priors it leaves the county. Its course through the county is about forty-seven miles.

The Avon is everywhere a beautiful soft-flowing stream, with rich alluvial banks clothed with a wealth of beautiful wild flowers, stately forests of bulrush, *Scirpus lacustris*; and water meadow-grass, *Glyceria aquatica*; the golden beauty of the yellow water-cress or the pearly blossom of the bitter-cress, *Cardamine amara*; and in its waters tangled masses of *Ranunculus trichophyllus*, and frequently the yellow water-lily, *Nuphar lutea*.

5. THE LEAM

The river Leam rises on the northern slopes of Marston Hill and, forming the boundary line of Northampton and Warwickshire for some two or three miles, enters Warwickshire a little north of Wolfhamcote. As it flows in a north-westerly direction, soon after passing through Grandborough it meets on its right bank the waters of the Rainsbrook, a stream entering the county near Dunchurch. From this point the Leam turns west past Leamington Hastings and Birdingbury; near Marston receiving on its left bank the brook-like river, the Itchin, and on its right bank waters from Bourton, Thurlaston and the surrounding country. From Marston the Leam has a widely sinuous course through Wappenbury and Offchurch to Radford Semele, receiving on its way waters from Cubbington and Whitnash. Thence it flows westward through Leamington to its confluence with the Avon near Emscote. The principal rocks of this basin are those of the Lias marls and clays, but about Offchurch and Leamington Keuper marls predominate. The Itchen rises on the west

A HISTORY OF WARWICKSHIRE

slopes of the Marston Hill, and has a west course for six miles, where Ham Brook falls into it, a small stream draining Wormleighton, Fenny Compton and the Burton Hills. The course of the Itchen now becomes northerly, through Bishop's Itchington, near Southam, through Long Itchington to its confluence with the Leam near Marton. It is little more than a brook in any portion of its course, and having a gentle flow, is as a rule luxuriously weed-grown.

6. THE SOW

The Sow rises on the high land near Astley, flowing south-west through Bedworth woodlands, where it receives on its left bank a stream from Arbury. Here its course bears south through Exhall, where it is joined by Breach Brook, a stream draining Fillongley and Corley ; from there it flows through Longford and Foleshill, receiving on its left bank March Brook from Hawkesbury. Its course now becomes westerly through Wyken, Sow and Binley, and receives on its left bank waters from Monk's Kirby, Withybrooke, Combe, Stretton-on-Fosse and part of Brinklow. From Binley it takes a widely sinuous course through Willenhall and Baginton to its confluence with the Avon in Stoneleigh Park, receiving near Baginton the little river Sherbourne, a stream draining the country around Allesley, Westwood Heath and Kenilworth. Its whole course is about twenty miles.

7. THE STOUR

The Stour rises at Stour Well in Oxfordshire, and enters Warwickshire at Traitors' Ford, about three miles from its source ; it flows through Stourton, Cherrington, Burmington, Shipston-on-Stour, Halford, Alderminster, Atherstone-on-Stour to its confluence with the Avon two miles below Stratford-on-Avon. Although the Stour is for a considerable portion of its course an insignificant stream, the country through which the river runs is peculiar for its alternation of hill and dale, Bright Hill, Brailes Hill and Ilmington Downs being among the more elevated of our Warwickshire hills, and commanding fine far-reaching views over the surrounding country. The highest points are Ebrington Hill, which has an elevation of 855 feet above the sea ; Bright Hill 737 feet, and Brailes Hill 700 feet. The district is well wooded, and contains here and there remains of what have, in former times, been widely stretching heath lands.

8. THE ALNE

The Alne is formed by two streams rising far apart. The main stream rises on Apsley Heath near the county boundary, and takes an easterly course by Tanworth Mill, through Henley-in-Arden and Beaudesert to the grounds of Wootton Hall, where it unites with the second principal feeder. This stream rises near Wroxall Abbey, about seven miles north-east of Wootton Hall, and flows through Rowington, Low-

BOTANY

som Ford, Preston Bagot, and by Crab Mill to its confluence with the main stream, receiving a stream flowing through Lapworth and by Yarningale Common. The Alne now takes a course south and south-west near Wootton Wawen, Great Alne and Kinwarton to its confluence with the Arrow near Alcester, receiving on its left bank waters from Shrewley, Claverdon and Bearley. The course of the river from its source is about seventeen miles, draining a wide extent of country usually low-lying, but with elevated land near its source and at Henley-in-Arden.

9. THE ARROW

The Arrow rises in Worcestershire in a valley north-east of Alvechurch, and enters Warwickshire near Beoley Lane. Its course is at first south-west through Ipsley and Washford, receiving on its west bank streams from the high lands about Ipsley and Mappleborough Green. Now it flows south through Studley, Sperrall and Coughton to Oversley Bridge, receiving on its way streams from east and west, bringing waters from Morton Bagot, Crabb's Cross and Sambourn. After its confluence with the Alne at Alcester, it takes a short turn eastward through the pretty village of Arrow, but rapidly recovering its southerly direction, flows through Wixford and Broom to its confluence with the Avon near Salford Bridge, receiving on either bank waters from Exhall and Bevington. Its whole course in the county is sixteen miles. The valley watered by the Arrow is narrow, hilly and well wooded; the prevailing soils being those of the New Red Sandstone and marls, but in the more southern portion those of the Lias prevail, and its flora is characteristic of calcareous soils.

10. THE CHERWELL

The Cherwell district includes that portion of Warwickshire lying south-west of Wormleighton, Fenny Compton and Burton Dassett, and a narrow tongue of land north-east of Wormleighton, part of Fenny Compton, Avon Dassett and part of the southern escarpment of the Edge Hill, Warmington and Shotswell. This district is drained by small tributaries of the Cherwell. The flora is poor, but includes one noticeable plant, the white-flowered helleborine, *Cephalanthera pallens*.

In the following summary of the geographical distribution of the species and varieties of the Warwickshire plants the arrangement and nomenclature are those of the *Student's Flora of the British Islands*, except in the genus *Rubus*, where the arrangement and nomenclature of the 9th edition of the *London Catalogue of British Plants* is followed.

The numbers following the scientific names of the plants 1 up to 10 indicate the districts in which the plant has been found, but when found in three or more continuous districts, to save space this has been indicated by placing a hyphen between the first and last numbers: thus, 1, 2, 3, 4, would be thus indicated, 1-4, etc.

A HISTORY OF WARWICKSHIRE

SUMMARY OF ORDERS, NUMBER OF GENERA AND OF SPECIES IN EACH ORDER, ETC.

	Total Genera in each Order	Total Species in each Order	Ex- cluded Species in each Order		Total Genera in each Order	Total Species in each Order	Ex- cluded Species in each Order
CLASS I.				38. Rubiaceæ . . .	3	12	1
DICOTYLEDONS OR				39. Valerianææ . . .	2	5	1
EXOGENÆ				40. Dipsacææ . . .	2	5	—
Div. I. <i>Thalamifloræ</i>				41. Compositææ . . .	36	78	11
1. Ranunculacææ . . .	10	29	3	42. Campanulacææ . . .	4	8	4
2. Berberidææ . . .	1	1	—	43. Vacciniææ . . .	1	3	—
3. Nymphæacææ . . .	2	2	—	43.*Ericacææ . . .	2	5	—
4. Papaveracææ . . .	2	4	2	44. Monotropeææ . . .	1	1	—
5. Fumariacææ . . .	2	6	1	46. Primulacææ . . .	6	11	—
6. Cruciferææ . . .	19	41	13	47. Oleacææ . . .	2	2	—
7. Resedacææ . . .	1	1	2	48. Apocynacææ . . .	1	2	—
8. Cistineææ . . .	1	1	—	49. Gentianææ . . .	4	5	1
9. Violacææ . . .	1	8	—	51. Boragineææ . . .	7	15	5
10. Polygalææ . . .	1	3	—	52. Convolvulacææ . . .	3	4	3
12. Caryophyllææ . . .	12	32	4	53. Solanacææ . . .	3	4	2
13. Portulacææ . . .	1	1	1	54. Plantaginææ . . .	2	5	1
14. Elatineææ . . .	1	1	—	55. Scrophularinææ . . .	12	33	3
15. Hypericineææ . . .	1	8	1	56. Orobanchææ . . .	2	4	—
16. Malvacææ . . .	1	3	2	57. Lentibularinææ . . .	2	3	—
17. Tiliacææ . . .	1	2	1	58. Verbenacææ . . .	1	1	—
18. Lineææ . . .	2	2	2	59. Labiatææ . . .	17	44	4
19. Geraniacææ . . .	3	12	6	Div. IV. <i>Mono-</i> <i>chlamydææ</i>			
20. Ilicineææ . . .	1	1	—	60. Illecebracææ . . .	1	2	4
21. Empetracææ . . .	1	1	—	61. Chenopodiaceææ . . .	2	9	4
Div. II. <i>Calyciflora</i>				62. Polygonacææ . . .	3	20	2
22. Celastrineææ . . .	1	1	—	64. Thymelæacææ . . .	1	1	1
23. Rhamneææ . . .	1	2	—	66. Loranthacææ . . .	1	1	—
24. Sapindacææ . . .	1	1	1	68. Euphorbiacææ . . .	2	5	4
25. Leguminosææ . . .	15	46	9	69. Urticacææ . . .	4	6	1
26. Rosacææ . . .	12	96	2	70. Myricacææ . . .	1	1	—
27. Saxifrageææ . . .	4	8	1	71. Cupiliferææ . . .	8	7	1
28. Crassulacææ . . .	2	3	4	72. Salicineææ . . .	2	21	2
29. Droseracææ . . .	1	1	—	73. Ceratophyllææ . . .	1	1	—
30. Lythrarieææ . . .	2	2	—	Div. V. <i>Gymniosperms</i>			
31. Halorageææ . . .	3	8	1	74. Coniferææ . . .	1	1	2
32. Onagrarieææ . . .	3	10	1	CLASS II.			
33. Cucurbitacææ . . .	1	1	—	MONOCOTYLEDONS			
34. Umbelliferææ . . .	22	35	6	Div. I. <i>Petaloidææ</i>			
35. Araliacææ . . .	1	1	—	75. Hydrocharideææ . . .	1	1	—
36. Cornacææ . . .	1	1	—	76. Orchideææ . . .	8	18	—
Div. III. <i>Corollifloræ</i>				77. Irideææ . . .	2	3	1
37. Caprifoliacææ . . .	4	6	—				

BOTANY

	Total Genera in each Order	Total Species in each Order	Ex- cluded Species in each Order		Total Genera in each Order	Total Species in each Order	Ex- cluded Species in each Order	
78. Amaryllideæ . . .	2	4	2	CLASS III. ACOTYLEDONS OR CRYPTOGAMIA Div. I. <i>Vasculares</i>				
79. Dioscoreæ . . .	1	1	—					
80. Liliaceæ . . .	10	12	5					
81. Junceæ . . .	2	15	—					
83. Typhaceæ . . .	2	6	—					
84. Aroideæ . . .	2	2	—					
85. Lemnaceæ . . .	1	4	—		90. Filices . . .	13	20	—
86. Alismaceæ . . .	3	4	—		91. Equisetaceæ . . .	1	6	—
87. Naiadaceæ . . .	3	17	—		92. Lycopodiaceæ . . .	1	3	—
					94. Marsileaceæ . . .	1	1	—
Div. II. <i>Glumaceæ</i>				Div. II. <i>Cellulares</i>				
88. Cyperaceæ . . .	8	52	—					
89. Gramineæ . . .	33	70	—	95. Characeæ . . .	3	7	—	

SUMMARY OF GEOGRAPHICAL DISTRIBUTION OF SPECIES AND VARIETIES

RANUNCULACEÆ

Clematis Vitalba, L. 1, 2, 4, 6-10
Thalictrum flavum, L. 1-5, 7, 9
Anemone nemorosa, L. [all]
Myosurus minimus, L. 2-4, 8, 9
Ranunculus fluitans, Lam. 1-4, 6, 8, 9
— *trichophyllus*, Chaix. 2, 4, 6-8, 10
— *circinatus*, Sibth. 1-6, 8, 10
— *pseudo-fluitans*, Bab. 2-8
— *b. submersus*, Hiern. 1, 2, 4-8, 10
— *Drouetti*, Godron. 1, 2, 4-9
— *b. Godronii*, Gren. 2, 3, 6, 8
— *heterophyllus*, Web. 1-7, 9
— *b. radians*, Rev. 1-6, 9, 10
— *peltatus*, Schrank. 1-4, 6, 7
— *b. truncatus*, Hiern. 1, 2, 4, 6
— *c. floribundus*, Bab. [all]
— *d. penicillatus*, Hiern. 3, 8
— *Lenormandi*, F. Schultz. 1, 2, 4
— *hederaceus*, L. 1-9
— *Lingua*, L. 1, 3, 6, 7, 8
— *Flammula*, L. [all]
— *auricomus*, L. [all]
— *sceleratus*, L. [all]
— *acris*, L. [all]
— *repens*, L. [all]
— *bulbosus*, L. [all]
— *hirsutus*, Curtis. 4
— *arvensis*, L. [all]
— *parviflorus*, L. 2, 4, 5, 7, 9
— *Ficaria*, L. [all]
— *b. incumbens*, F. Sch. 7
Caltha palustris, L. [all]
— *b. Guerangerii*, Boreau. 1-5, 7, 8
Helleborus viridis, L. 1, 3, 4, 6, 8, 9
— *foetidus*, L. 2, 4, 8, 9
[Eranthis hyemalis], Salisb. 1, 4, 5
Aquilegia vulgaris, L. 1, 2, 4, 6, 8

[Delphinium Ajacis], Reich. 5, 6, 9
[Aconitum Napellus], L. 4

BERBERIDEÆ

Berberis vulgaris, L. 1-9

NYMPHÆACEÆ

Nuphar luteum, Sm. [all]
Nymphaea alba, L. 1-4, 9

PAPAVERACEÆ

[Papaver somniferum], L. 2, 4
— *Rhœas*, L. [all]
— *b. strigosum*, Boenn. 4
— *dubium*, L. [all]
— *b. Lecoqii*, Lam. 4-7, 9, 10
— *Argemone*, L. [all]
Chelidonium majus, L. [all]

FUMARIACEÆ

[Corydalis lutea], DC. 1-4, 6, 7, 8
— *claviculata*, DC. 1
Fumaria pallidiflora, Jord. 4-6
— *confusa*, Jord. 2, 4
— *muralis*, Sonder. 1, 4
— *officinalis*, L. [all]

CRUCIFERÆ

Cheiranthus Cheiri, L. 4, 6-8
Nasturtium officinale, Br. [all]
— *b. siifolium*, Reichb. 2, 4, 8
— *sylvestre*, Br. 1
— *palustre*, DC. 1-6, 8, 9
— *amphibium*, Br. 1-6, 8, 9
Barbarea vulgaris, Br. [all]
— *b. divaricata*, L.C. 3, 4, 7, 8-10
— *arcuata*, Reich. 4, 5, 7-9
— *stricta*, Andr. 4, 6

A HISTORY OF WARWICKSHIRE

Barbarea intermedia, Boreau. 2, 4, 6, 9
 [— *præcox*], Br. 1, 4-6, 9
Arabis hirsuta, Br. 6, 7
 — *perfoliata*, Lamk. 1, 2, 4, 6
Cardamine hirsuta, L. [all]
 — *flexuosa*, With. [all]
 — *pratensis*, L. [all]
 — *amara*, L. 1-9
 — *impatiens*, L. 3, 4
Sysymbrium Thaliana, Hook. [all]
 — *Sophia*, L. 2, 4, 6, 9
 — *officinale*, Scop. [all]
 — *Alliaria*, Scop. [all]
Erysimum cheiranthoides, L. 1, 2, 4, 6
 [*Hesperis matronalis*], L. 2, 4, 5, 7
Brassica Napus, L. 1, 3, 4, 6-10
 — *Rutabaga*, L. 1, 4, 7, 10
 — *Rapa*, L. 1-10
 b. sylvestris, Wats. 4, 5, 10
 — *nigra*, Koch. 3-10
 — *Sinapis*, Visiani. [all]
 — *alba*, Boiss. 3, 4, 6-10
Diplotaxis tenuifolia, DC. 8
 — *muralis*, DC. 4, 5
 b. Babingtonii, Syme. 4, 5
Erophila vulgaris, DC. [all]
 — *brachycarpa*, Jord. 2, 5, 6
 [*Alyssum calycinum*], L. 1, 6
 [— *incanum*], L. 1, 5
 [*Cochlearia Armoracia*], L. 1-5, 7, 9
 [*Camelina sativa*], Crantz. 1, 6
Capsella Bursa-pastoris, Moench. [all]
Senebiera Coronopus, Poir. 2, 4-10
Lepidium ruderales, L. 6
 — *campestre*, Br. [all]
 — *Smithii*, Hook. 1-4
 — *Draba*, L. 1-4
Thlaspi arvense, L. 1, 2, 4, 5, 7-10
Iberis amara, L. 5, 6, 8
Teesdalia nudicaulis, Br. 1, 2, 4
Raphanus Raphanistrum, L. 1-4, 6-9

RESEDACEÆ

[*Reseda alba*], L. 4, 6
 [— *lutea*], L. 4
 — *Luteola*, L. 1, 2, 4, 6, 7, 9, 10

CISTINEÆ

Helianthemum vulgare, Gærtn. 4, 5, 7-10

VIOLACEÆ

Viola palustris, L. 1-3, 6, 8
 — *odorata*, L. [all]
 b. alba, Auct. 1, 4, 6-9
 c. permixta, Jord. 4
 — *hirta*, L. 2, 4-10
 b. alba, Auct. 4, 8
 — *Riviniiana*, Reich. [all]
 — *Reichenbachiana*, Bor. [all]
 — *canina*, L. 1-4, 6-8
 — *lactea*, Sm. 6
 — *tricolor*, L. [all]
 b. arvensis, Murr. [all]

POLYGALÆ

Polygala vulgaris, L. 1-9
 — *oxyptera*, Reich. 7
 — *depressa*, Wend. 1, 2, 3, 6-9

CARYOPHYLLÆ

Dianthus Armeria, L. 4, 6, 7, 9
 — [*deltoides*], L. 1, 4
Saponaria officinalis, L. 1, 4, 9
 b. hybrida, L. 6
Silene Cucubalus, Wibel. 1-5, 7, 10
 b. puberula, Syme. 2, 4, 10
 — *anglica*, L. 1, 2, 4
 — [*nutans*], L. 1
 — *noctiflora*, L. 4, 9
Lychnis vespertina, L. [all]
 — *diurna*, Sibth. [all]
 — *Flos-cuculi*, L. [all]
Githago segetum, Desf. [all]
Cerastium quarternellum, Fenzl. 1-3, 6, 8
 — *semidecandrum*, L. 2, 4, 8
 — *glomeratum*, Thuill. [all]
 — *triviale*, Link. [all]
 — *arvense*, L. 2, 4, 6
Stellaria aquatica, Scop. [all]
 — *nemorum*, L. 7, 9
 — *media*, Vill. [all]
 b. neglecta, Weihe. 1-5, 8, 10
 — *umbrosa*, Opitz, 2, 6-8
 — *Holostea*, L. [all]
 — *palustris*, Ehrh. 4, 8, 9
 — *graminea*, L. [all]
 — *uliginosa*, Murr. [all]
Arenaria trinervia, L. [all]
 — *serpyllifolia*, L. [all]
 var. *leptoclados*, Guss. [all]
 — *tenuifolia*, L. 3, 4
Sagina apetala, L. [all]
 — *ciliata*, Fries. 1, 2
 — *procumbens*, L. [all]
 — *nodosa*, E. Mey. 1, 2
Spergula vulgaris, Bœnn. [all]
 — *sativa*, Bœnn. 1, 2, 4, 6, 7
Spergularia rubra, Pers. 1-6, 8, 9

PORTULACÆ

Montia fontana, L. 1-4, 6-9
 var. *rivularis*, Gmel. 1, 2
 [*Claytonia perfoliata*], Don. 1

ELATINEÆ

Elatine hexandra, DC. 2

HYPERICINEÆ

Hypericum Androsæmum, L. 2, 4, 6
 — *perforatum*, L. [all]
 — *quadrangulum*, L. [all]
 var. *maculatum*, Bab. 1, 2, 4
 — *tetrapterum*, Fries. [all]
 — *humifusum*, L. 1-6, 8, 9
 — *pulchrum*, L. [all]
 — *hirsutum*, L. 2-10
 — *elodes*, Huds. 1, 2

BOTANY

MALVACEÆ

- Malva sylvestris*, L. [all]
— *rotundifolia*, L. [all]
— *moschata*, L. [all]

TILIACEÆ

- Tilia parvifolia*, Ehrh. 3, 4, 6, 9
— *platyphyllos*, Scop. 2, 6
[— *vulgaris*], Hayne. [all]

LINEÆ

- Linum catharticum*, L. [all]
[— *usitatissimum*], L. 1, 4-6, 9
Radiola linoides, Gmel. 2, 4, 6, 8

GERANIACEÆ

- Geranium sylvaticum*, L. 1, 9
— *pratense*, L. 2-10
 b. alba. 4
— *perenne*, Huds. 2, 4, 6, 7
[— *Phæum*], L. 1, 2, 4-6, 8
— *molle*, L. [all]
— *pusillum*, L. 1, 2, 4, 6, 8, 9
— *columbinum*, L. 1, 4, 5, 9
— *dissectum*, L. [all]
— *Robertianum*, L. [all]
 var. flore-albo, 2, 4
— *lucidum*, L. 1-6, 9
Erodium cicutarium, L'Hérit. 1, 2, 4-6
 var. chærophyllum, Cav. 1, 6
— *moschatum*, L'Hérit. 2, 4, 6, 9
Oxalis Acetosella, L. 1-9

ILICINEÆ

- Ilex Aquifolium*, L. [all]

EMPETRACEÆ

- Empetrum nigrum*, L. 1

CELASTRINEÆ

- Euonymus europæus*, L. 2, 4-9

RHAMNEÆ

- Rhamnus catharticus*, L. [all]
— *Frangula*, L. 1-4, 6, 8, 9

SAPINDACEÆ

- Acer campestre*, L. [all]
[— *Pseudoplatanus*], L. [all]

LEGUMINOSÆ

- Genista tinctoria*, L. 2-9
— *anglica*, L. 1, 2, 4-6
Ulex europæus, L. [all]
— *Gallii*, Planch. [all]
Cytisus scoparius, Link. [all]
Ononis spinosa, L. [all]
— *repens*, L. [all]
[*Medicago sativa*], L. 1-5, 7, 8, 10
— *lupulina*, L. [all]
— *denticulata*, Willd. 3, 6
 b. apiculata, Willd. 6
 c. lappacea, Lamk. 6
— *maculata*, Sibth. 3-6
Melilotus officinalis, Willd. 1, 2, 4-10
— *alba*, Desr. 1, 2, 4

- Melilotus arvensis*, Wallr. 1, 3-5, 7-10

[— *parviflora*], Lam. 2, 6

- Trifolium subterraneum*, L. 4
— *arvense*, L. 1, 4-6, 9
— *pratense*, L. [all]
— *medium*, Huds. 1-5, 7-10
[— *incarnatum*], L. 1, 2, 4, 5
— *striatum*, L. 1, 4-7, 9
 b. erectum, Leight. 4

- *scabrum*, L. 4
— *hybridum*, L. [all]
 b. elegans, Savi. 4
— *repens*, L. [all]
— *fragiferum*, L. 4, 5, 7-10
— *procumbens*, L. [all]
— *dubium*, Sibth. [all]
— *filiforme*, L. 1-4, 7-9

- Anthyllis Vulneraria*, L. 2, 4, 5, 7-10

- Lotus corniculatus*, L. [all]
 b. villosus, Coss. & Germ. 4, 10
 c. crassifolius, Pers. 4, 8-10

- *tenuis*, Waldst. & Kit. 2, 4, 5, 7-9
— *uliginosus*, Schk. [all]

- Astragalus glycyphyllos*, L. 4, 5, 8, 9

- Ornithopus perpusillus*, L. 1-6, 8

- Hippocrepis comosa*, L. 4

- Onobrychis sativa*, Lamk. 4, 5, 8-10

- Vicia tetrasperma*, Mœnch. 1, 2, 4-6, 8, 9

- *gracilis*, Loisel. 4, 5, 7, 8

- *hirsuta*, Koch. [all]

- *Cracca*, L. [all]

- *sylvatica*, L. 3

- *sepium*, L. [all]

- [— *sativa*], L. [all]

- *angustifolia*, Roth. [all]

- b. Bobartii*, Forst. [all]

- *lathyroides*, L. 3, 4, 9

- Lathyrus Aphaca*, L. 4, 8

- *Nissolia*, L. 3-5, 7-9

- *pratensis*, L. [all]

- [*latifolius*], L. 5

- *sylvestris*, L. 3-5, 7, 9

- *macrorrhizus*, Wimm. 1-9

ROSACEÆ

- Prunus communis*, L. [all]

- b. fruticans*, Weihe. 5-7, 10

- *insititia*, L. 2-4, 7-10

- *Cerasus*, L. 2, 4-9

- *Avium*, L. [all]

- *Padus*, L. 1, 2, 4, 6

- Spiræa Ulmaria*, L. [all]

- *Filipendula*, L. 4, 5, 7-10

- Rubus idæus*, L. [all]

- b. obtusifolius*, Willd. 4

- *fissus*, Lindl. 1, 3, 6

- *suberectus*, Anders. 1, 3, 6, 8

- *plicatus*, W. & N. 1, 3, 6

- b. hamulosus*, Bab. 1

- *carpinifolius*, W. & N. 1, 3, 10

- *Lindleyanus*, Lees. [all]

- *erythrinus*, Genev. 10

- *rhamnifolius*, W. & N. 1-9

- *Bakeri*, F. A. Lees. 1, 2, 6

- *nemoralis*, P. J. Muell. 1, 2, 4

- b. glabratus*, Bab. 1, 3, 6, 8

A HISTORY OF WARWICKSHIRE

- Rubus pulcherrimus*, Neum. [all]
 — *Lindebergii*, P. J. Muell. 2, 3
 — *mercicus*, Bagnall. 1
 b. bracteatus, Bagnall. 3, 6
 — *villicaulis*, Koehl. 2, 6
 — *Selmeri*, Lindeb. 1-4, 6, 8
 — *calvatus*, Blox. 1, 3, 6
 — *gratus*, Focke. 2, 3, 6, 8
 — *argentatus*, P. J. Muell. 2, 3, 8, 10
 b. robustus, P. J. Muell. 3, 8, 10
 — *rusticanus*, Merc. [all]
 — *thyrsoides*, Wimm. 1, 2, 7
 — *pubescens*, Weihe. 1-7
 — *lentiginosus*, Lees. 3
 — *macrophyllus*, Wh. & N. [all]
 b. Schleichtendallii, Weihe. 1, 8, 10
 c. amplificatus, Lees. 1-9
 — *Salteri*, Bab. 3
 — *Colemanni*, Blox. 6
 — *Sprengelii*, Weihe. 1-4, 6, 8, 9
 — *orthocladus*, A. Ley. 3
 — *micans*, Gren. & Godr. 2, 6
 — *hirtifolius*, Muell & Wirtg. 4
 — *pyramidalis*, Kalt. 1-3, 5, 8, 9
 — *leucostachys*, Schl. [all]
 — *criniger*, Linton. 2
 — *mucronatus*, Blox. 1-6, 8, 9
 — *anglosaxonicus*, Gelert. 2, 3, 7, 8
 — *infestus*, Weihe. 1, 3, 4
 — *Leyanus*, Rogers. 1-3, 6, 7
 — *radula*, Weihe. [all]
 b. anglicanus, Rogers. 1, 3, 5, 6, 8
 — *echinatoides*, Rogers. 3, 5
 — *echinatus*, Lindl. [all]
 podophyllus, P. J. Muell. 6, 8
 oigocladus, Muell & Lefv. 1, 3, 6, 9
 c. Bloxamianus, Colem. 2, 3
 — *Babingtonii*, Bell Salt. 1-4, 10
 — *Lejeunei* *b. ericetorum*, Lefv. 2, 3, 8
 Bloxamii, Lees. 1-6, 8
 — *fuscus*, Wh. & N. 1, 3
 b. nutans, Rogers. 1, 3
 — *pallidus*, Wh. & N. 6
 — *scaber*, Wh. & N. 1, 3
 foliosus, Wh. & N. 1-3, 5-9
 — *rosaceus*, Wh. & N. 1-6, 8
 b. hystrix, Wh. & N. 1, 3-6, 8
 c. infecundus, Rogers. 1-3, 6, 7
 — *adornatus*, P. J. Muell. 1-6, 8, 9
 — *fusco-ater*, Weihe. 1, 4, 6
 — *Kœhleri*, Wh. & N. [all]
 b. dasyphyllus, Rogers. [all]
 — *Bellardi*, Wh. & N. 3, 8
 — *hirtus*, W. & K. 1-3, 8
 b. rotundifolius, Bab. 1, 3, 8
 c. Kaltenbachii, Metsch. 1
 — *velatus*, Lefv. 1
 — *dumetorum* *a. ferox*, Weihe. 4-9
 c. diversifolius, Lindl. 1-10
 d. pilosus, Wh. & N. 2
 f. tuberculatus, Bab. 1-10
 h. fasciculatus, P. J. Muell. 1-5, 7-10
 — *Balfourianus*, Blox. [all]
 — *corylifolius* *a. sublustris*, Lees. 1-8, 10
 — *cæsius*, L. 3-9
 b. tenuis, Bell Salt. 1-9
 Geum urbanum, L. [all]
 — *rivale*, L. 1, 2, 4-6, 8
 b. intermedium, Ehrh. 4-6
 — *Fragaria vesca*, L. [all]
 [— *elatior*], Ehrh. 4, 6
 — *Potentilla Fragariastrum*, Ehrh. [all]
 — *silvestris*, Neck. [all]
 — *procumbens*, Sibth. 1-6, 9
 — *reptans*, L. [all]
 — *anserina*, L. [all]
 — *argentea*, L. 2-4
 — *palustris*, Scop. 1, 2, 6, 8
 — *Alchemilla arvensis*, Scop. [all]
 — *vulgaris*, L. [all]
 — *Agrimonia Eupatoria*, L. [all]
 — *odorata*, Mill. 2-9
 — *Poterium Sanguisorba*, L. 1-5, 7-10
 — *polygamum*, Waldst. & Kit. 1, 2, 4-10
 — *officinale*, Hook fil. [all]
 — *Rosa spinosissima*, L. 4-6, 8, 9
 — *involuta*, Sm. 2, 4, 8, 9
 b. Doniana, Woods. 4, 6, 8
 — *mollis*, Sm. 1, 2, 4, 6, 8, 9
 — *tomentosa*, Sm. [all]
 — *subglobosa*, Sm. 1-4, 8, 9
 — *scabriuscula*, Sm. 1, 2, 4, 6, 8, 9
 — *foetida*, Bast. 1-4, 7, 8
 — *rubiginosa*, L. 2, 4, 6, 8, 9
 — *micrantha*, Sm. 1-9
 c. hystrix, Leman. 5
 — *agrestis*, Savi. 4, 6
 d. inodora, Fr. 4, 7, 9, 10
 — *canina* *a. lutetiana*, Leman. [all]
 b. surculosa, Woods. 2-10
 c. sphærica, Gren. 1, 8, 9
 d. senticosa, Ach. 2-9
 e. dumalis, Bechst. [all]
 f. biserrata, Merat. 2-10
 g. urbica, Leman. [all]
 var. *platyphylla*, Rau. 1, 2, 5, 7
 h. frondosa, Steven. 1-7
 i. arvatica, Baker. 1-8, 10
 j. dumetorum, Thuill. 1-5, 7, 8, 10
 k. obtusifolia, Desv. 1, 2, 4, 6
 n. tomentilla, Leman. 1-7, 9, 10
 o. andevagensis, Bast. 1-5, 7-10
 p. verticillacantha, Merat. [all]
 q. collina, Jacq. 1-3, 6, 8
 s. cæsia, Sm. 1-6, 8
 t. concinna, Baker. 2, 3, 8
 u. decipiens, Dum. 1-4, 6, 9
 v. glauca, Vill. 1-7
 w. subcristata, Baker. 2-10
 x. coriifolia, Fr. 1, 3-5
 y. Watsoni, Baker. 1-3, 7, 8
 z. Borreri, Woods. 2-5
 **a. Bakeri*, Desegl. 3, 4
 **b. marginata*, Wallr. 2, 4-6, 8, 9
 — *systyla*, Bast. 4, 5, 8
 b. gallicoides, Baker. 4
 — *arvensis*, Huds. [all]
 — *bibracteata*, Bast. 2-9
 — *Pyrus communis*, L. 4-10
 b. Achras, Gært. 5, 7, 8
 — *Malus*, *a. acerba*, DC. [all]
 b. mitis, Wallr. 1, 3, 4-8

BOTANY

Pyrus torminalis, Ehrh. 2-4, 8, 9
— *Aria*, Sm. 1-7, 9
— *Aucuparia*, Gært. 1-9
Cratægus Oxyacantha, L. 2-10
var. *monogyna*, Jacq. [all]

SAXIFRAGEÆ

Saxifraga tridactylites, L. [all]
— *granulata*, L. [all]
Chrysosplenium alternifolium, L. 1, 2, 4, 6, 7
— *oppositifolium*, L. 1-4, 6-9
Parnassia palustris, L. 1, 2, 4, 6, 7
Ribes Grossularia, L. 1, 2, 4, 5, 8, 9
[— *alpinum*], L. 1
— *rubrum*, L. 2-5, 10
— *nigrum*, L. 1, 3, 6, 7, 9

CRASSULACEÆ

Cotyledon Umbilicus, L. 2-4
Sedum Telephium, L. 2, 4, 6-8
— *album*, L. 2-4, 6-8
— *acre*, L. 2-4, 7-10
— *reflexum*, *b. albescens*, Haw. 2-9
[*Sempervivum tectorum*], L. 1, 3, 4, 6, 7

DROSERACEÆ

Drosera rotundifolia. 1, 2

HALORAGEÆ

Hippuris vulgaris, L. 3-6, 10
Myriophyllum verticillatum, L. 2, 4, 6, 8
var. *pectinatum*, DC. 6
— *alterniflorum*, DC. 1-8, 10
— *spicatum*, L. 1, 2, 4, 7, 9
Callitriche verna, L. 4, 7
— *platycarpa*, Kuetz. [all]
— *hamulata*, Kuetz. [all]
— *obtusangula*, Leg. 1-8, 10

LYTHRARIÆ

Lythrum Salicaria, L. [all]
Peplis Portula, L. 1-9

ONAGRARIÆ

Epilobium angustifolium, L. 2-7
var. *brachycarpum*, Leight. 1, 2
— *hirsutum*, L. [all]
— *parviflorum*, Schreb. [all]
— *montanum*, L. [all]
— *roseum*, Schreb. [all]
— *tetragonum*, L. 1, 4-10
— *obscurum*, Schreb. 1-9
— *palustre*, L. [all]
[*Ænothera biennis*], L. 2, 4, 6, 9
Circæa lutetiana, L. [all]
[*— *alpina*]. 2

CUCURBITACEÆ

Bryonia dioica, L. [all]

UMBELLIFERÆ

Hydrocotyle vulgaris, L. 1-8
Sanicula europæa, L. [all]
Conium maculatum, L. [all]
Bupleurum rotundifolium, L. 4-9
Apium graveolens, L. 4, 5, 7

Apium nodiflorum, Reichb. [all]
b. repens, Koch. 1, 2, 4, 6, 9
— *inundatum*, Reichb. 1-4, 6, 7, 9
[*Carum Petroselinum*], Benth. 4, 6
— *segetum*, Benth. 4, 5, 7
[— *Carui*], L. 1, 2, 4, 6
Sison Amomum, L. 2-10
Sium erectum, Huds. [all]
Ægopodium Podagraria, L. [all]
Pimpinella Saxifraga, L. [all]
b. dissecta, Retz. 4, 5, 7
— *major*, Huds. 1-4, 6, 8, 9
Conopodium denudatum, Koch. [all]
Myrrhis odorata, Scop. 1, 2, 9
Scandix Pecten-Veneris, L. [all]
Chærophyllum temulum, L. [all]
Anthriscus vulgaris, Pers. 2, 4, 6, 9
— *sylvestris*, Hoffm. [all]
[*Fœniculum officinale*], All. 4, 5
Ænanthe fistulosa, L. 1-8
— *Lachenalii*, Gmel. 4, 5, 7, 8
— *peucedanifolia*, Poll. 1, 4, 8
— *crocata*, L. 1, 2
— *Phellandrium*, Lamk. 4, 9
— *fluviatilis*, Colem. 3-6
Æthusa Cynapium, L. [all]
Silaus pratensis, Besser. [all]
Angelica sylvestris, L. [all]
Peucedanum sativum, Benth. 4, 5, 7-10
Heracleum Sphondylium, L. [all]
b. angustifolium, Sm. 4, 7-10
Daucus Carota, L. [all]
Caucalis daucoides, L. 4, 8, 9
— *Anthriscus*, Huds. [all]
— *arvensis*, Huds. [all]
— *nodosa*, Scop. 1, 4, 5, 8

ARALIACEÆ

Hedera Helix, L. [all]

CORNACEÆ

Cornus sanguinea, L. [all]

CAPRIFOLIACEÆ

Sambucus Ebulus, L. 2-4, 7, 8
— *nigra*, L. [all]
Viburnum Lantana, L. 4, 5, 7-10
— *Opulus*, L. 1-9
Adoxa Moschatellina, L. 1, 2, 4-9
Lonicera Periclymenum, L. [all]

RUBIACEÆ

Galium verum, L. [all]
— *Cruciata*, Scop. [all]
— *palustre*, L. [all]
b. elongatum, Presl. [all]
c. Witheringii, Sm. 1-4, 6-10
— *uliginosum*, L. 1-8
— *saxatile*, L. [all]
— *Mollugo*, L. 2, 4, 5, 7-10
— *erectum*, Huds. 2, 4, 5, 8-10
— *Aparine*, L. [all]
— *tricorne*, With. 4, 5, 7-9
Asperula odorata, L. 1-9
— *cynanchica*, L. 8
Sherardia arvensis, L. [all]

A HISTORY OF WARWICKSHIRE

VALERIANÆ

- Valeriana dioica*, L. 1-6, 8-10
 — *officinale*, *σ*. Mikani, Wats. 1, 2, 4, 5, 8, 9
 δ. *sambucifolia*, Mikan. [all]
Valerianella olitoria, Mæsch. [all]
 — *Auricula*, DC. 4, 8
 — *dentata*, Poll. 1-8, 10

DIPSACÆ

- Dipsacus sylvestris*, L. [all]
 — *pilosus*, L. [all]
Scabiosa succisa, L. [all]
 — *Columbaria*, L. 4, 5, 7, 8, 10
 — *arvensis*, L. [all]

COMPOSITÆ

- Eupatorium cannabinum*, L. 1, 2, 4-6, 8, 9
Solidago Virgaurea, L. 1, 2, 4, 6
Bellis perennis, L. [all]
Erigeron acre, L. 4-6, 8
Filago germanica, L. [all]
 — *minima*, Fries. 2, 6
Gnaphalium uliginosum, L. [all]
 δ. *pilulare*, Wahl. 4
 — *sylvaticum*, L. 2-4, 6, 9
Inula Helenium, L. 1, 4, 8, 9
 — *Conyza*, DC. 1, 4, 6-9
Pulicaria dysenterica, Gært. [all]
 — *vulgaris*, Gært. 1, 4
Bidens cernua, L. 1, 2, 4-10
 — *tripartita*, L. 1, 2, 4, 6-8, 10
Achillea Millefolium, L. [all]
 — *Parnica*, L. 1-6, 8-10
Anthemis arvensis, L. 1, 2, 4, 5, 7, 9
 — *Cotula*, L. [all]
 — *nobilis*, L. 8
Matricaria Chamomilla, L. [all]
 — *inodora*, L. [all]
Chrysanthemum segetum, L. 1, 2, 4, 6-8
 — *Leucanthemum*, L. [all]
 [— *Parthenium*], Pers. 1-4, 7, 8, 10
Tanacetum vulgare, L. 2-4, 6, 8, 9
Artemisia vulgaris, L. [all]
 δ. *coarctata*, Forcell. 4, 5, 7
Petasites vulgaris, Desf. 2-4, 6-10
 [— *albus*], Gært. 3, 4
Tussilago Farfara, L. [all]
Senecio vulgaris, L. [all]
 — *sylvaticus*, L. 1-4, 6-9
 — *Jacobæa*, L. [all]
 — *erucifolius*, L. 1-9
 — *aquaticus*, Huds. [all]
 [— *squalidus*], L. 4-6
Arctium majus, Schk. 1-5, 7-10
 — *nemorosum*, Lej. 5, 7, 8
 — *intermedium*, Lange. 1-8
 — *minus*, Schk. [all]
Carlina vulgaris, L. 1, 4, 5, 7-9
Centaurea nigra, L. [all]
 forma radiata. 2, 4, 5, 7-10
 — *Scabiosa*, L. 2-10
 — *Cyanus*, L. 1, 2, 4, 9
 [— *solstitialis*], L. 4, 7
Serratula tinctoria, L. 1-9
Carduus nutans, L. 1-8, 10

- Carduus crispus*, L. [all]
 δ. *polyanthemos*, Koch. 4-6, 8, 10
 c. *acanthoides*, L. 4-6, 8, 10
Cnicus lanceolatus, Hoffm. [all]
 — *eriphorus*, Hoffm. 4-10
 — *acaulis*, Hoffm. 4-8
 — *arvensis*, Hoffm. [all]
 δ. *setosus*, Bess. 4
 — *palustris*, Hoffm. [all]
 — *pratensis*, Willd. 1-6, 8, 9
Onopordon Acanthium, L. 4-9
[Silybum Marianum], Gært. 4, 9
Cichorium Intybus, L. 1-5, 7-9
Lapsana communis, L. [all]
Picris hieracioides, L. 2, 4, 5, 7, 8, 9
 — *echioides*, L. 4, 5, 7-9
Crepis virens, L. [all]
 — *biennis*, L. 4, 5
 — *taraxacifolia*, Thuill. 4
 [— *setosa*], Haller fil. 4
 — *paludosa*, Mœsch. 1
Hieracium Pilosella, L. [all]
 — *murorum*, L. 8
 — *vulgatum*, Fr. 1-9
 — *maculatum*, Sm. 3, 4
 — *umbellatum*, L. 1-5, 7
 — *boreale*, Fries. 1-9
 — *tridentatum*, Fries. 3, 7, 9
Hypochaeris glabra, L. 1
 — *radicata*, L. [all]
Leontodon hirtus, L. [all]
 — *hispidus*, L. [all]
 — *autumnalis*, L. [all]
Taraxacum officinalis, Web. [all]
 δ. *erythrospermum*, Andr. 1-8, 10
 c. *palustris*, DC. 1-4, 6-10
 d. *lævigatum* DC. 1, 4-6, 10
Lactuca muralis, Fresen. 1-6, 8, 9
 — *virosa*, L. 2, 4-6, 10
Sonchus arvensis, L. [all]
 — *oleraceus*, L. [all]
 — *asper*, Hoffm. [all]
Tragopogon pratensis, L. 2, 4, 5, 8-10
 δ. *minor*, Fries. [all]

CAMPANULACÆ

- Jasione montana*, L. 1, 4-6
Wahlenbergia hederacea, Reich. 1, 3
Campanula rotundifolia, L. [all]
 [— *Rapunculus*], L. 3-6
 — *patula*, L. 1-4, 6-9
 — *latifolia*, L. [all]
 — *Trachelium*, L. 1, 4-10
 — *glomerata*, L. 4, 5, 8-10
Specularia hybrida, DC. 2, 4, 5, 8, 9

ERICACÆ

- Vaccinium Myrtillus*, L. 1-3, 6, 8, 9
 — *Vitis-Idæa*, L. 1, 2
 — *Oxycoccus*, L. 1, 2
Erica Tetralix, L. 1, 2, 4-6, 9
 — *cinerea*, L. 1-3, 6-9
Calluna vulgaris, Salis. 1-9
 δ. *incana*, Auct. 1, 2
Pyrola minor ? Sw. 2
 — *media*, Sw. 2

BOTANY

MONOTROPEÆ

Hypopithys multiflora. 3, 4

PRIMULACEÆ

Primula vulgaris, Huds. [all]

b. caulescens, Bab. 1, 2, 4, 6-8

c. intermedia, Bab. 1, 2, 4, 7-9

— *veris*, L. [all]

Lysimachia vulgaris, L. 1, 2, 4-7

— *nemorum*, L. [all]

— *Nummularia*, L. 1-9

Centunculus minimus, L. 1, 2, 6, 9

Anagallis arvensis, L. [all]

b. cærulea, Schreb. 1, 4-9

— *tenella*, L. 1-3, 6

Hottonia palustris, L. 1

Samolus Valerandi, L. 4, 5, 7, 8

OLEACEÆ

Ligustrum vulgare, L. [all]

Fraxinus excelsior, L. [all]

APOCYNACEÆ

Vinca minor, L. 1-4, 6, 7

— *major*, L. 1, 2, 4, 6, 7-9

GENTIANEÆ

Chlora perfoliata, L. 1, 3-5, 7-9

Erythraea Centaurium, Pers. [all]

— *pulchella*, Fries. 4, 5

Gentiana Amarella, L. 4, 6-8

Menyanthes trifoliata, L. 1-3, 6, 8

[*Limnanthemum peltatum*], Gmel. 2, 4

BORAGINEÆ

Echium vulgare, L. 1, 2, 4, 6, 8, 10

Symphytum officinale, L. 1-7, 9

b. patens, Sibth. 6, 7

[*Borago officinalis*], L. 2-5, 7, 9

Anchusa sempervirens, L. 1, 4, 6, 10

— *arvensis*, Bieb. 1-8

Lithospermum officinale, L. 4-9

— *arvense*, 2, 4-6, 8, 10

[*Pulmonaria officinalis*], L. 2-4

Myosotis palustris, With. [all]

b. strigulosa, Reich. 2, 5, 7, 8

— *repens*, D. Don. 1, 2

— *cæspitosa*, Schultz. [all]

— *sylvatica*, Hoffm. 1-4, 8, 9

— *arvensis*, Hoffm. [all]

— *var. umbrosa*, Bab. [all]

— *collina*, Hoffm. 1-4, 6-9

— *versicolor*, Reichb. 1, 2, 4-9

Cynoglossum officinale, L. 1, 4-8

— *montanum*, Lamk. 4, 6

CONVOLVULACEÆ

Calystegia sepium, L. [all]

Convolvulus arvensis, L. [all]

Cuscuta europæa, L. 2, 5, 6, 7

— *Epithymum*, Murr. 4

— *Epilinum*, Weihe. 4

[— *Trifolii*], Bab. 2, 4, 6

SOLANACEÆ

Hyoscyamus niger, L. 4, 7-9

Solanum Dulcamara, L. [all]

— *nigrum*, L. 4

Atropa Belladonna, L. 1, 2, 3, 8

PLANTAGINEÆ

Plantago major, L. [all]

— *media*, L. 2-5, 7-10

— *lanceolata*, L. [all]

b. Timbali, Jord. 1, 4, 5

— *Coronopus*, L. 1-3, 6, 9

Littorella lacustris, L. 1, 2

SCROPHULARINEÆ

Verbascum Thapsus, L. 1, 2, 4, 6-9

— *nigrum*, L. 4-6

[— *virgatum*], With. 4

[— *Blattaria*], L. 4, 9

Linaria Cymbalaria, Chav. 1-7, 9, 10

— *spuria*, Mill. 4, 5, 7-9

— *Elatine*, Mill. 2, 4-9

— *repens*, Ait. 8

— *vulgaris*, Mill. [all]

— *minor*, Desf. 2, 4, 5, 7-9

Antirrhinum Orontium, L. 4, 7

[— *majus*], L. 1, 2, 4, 6

Scrophularia nodosa, L. [all]

— *aquatica*, L. [all]

— *umbrosa*, Dum. 4

Limosella aquatica, L. 2, 3, 6, 8

Digitalis purpurea, L. 1-6, 8, 9

Veronica agrestis, L. [all]

— *Buxbaumii*, Ten. [all]

— *hederæfolia*, L. [all]

— *arvensis*, L. [all]

— *serpyllifolia*, L. [all]

— *officinalis*, L. [all]

— *Chamædrys*, L. [all]

— *montana*, L. 1-4, 6, 8

— *scutellata*, L. 1-4, 6-9

— *Beccabunga*, L. [all]

— *Anagallis*, L. 1-9

Bartsia Odontites a. verna, Reichb. [all]

b. serotina, Reichb. 1, 2, 4, 5, 7-10

Euphrasia officinalis, L. [all]

var. gracilis, Fries. 2, 4, 7, 9

Pedicularis palustris, L. 1, 2, 6, 8

— *sylvatica*, L. 1-9

Melampyrum pratense, L. 1-9

Rhinanthus Crista-galli, L. [all]

Lathyræa squamaria, L. 3

OROBANCHEÆ

Orobanche major, L. 2, 4, 6, 9

— *elatior*, Sutt. 2, 6

— *minor*, Sutt. 4, 6

LENTIBULARINEÆ

Pinguicula vulgaris, L. 1, 2, 3

Utricularia vulgaris, L. 1, 2, 4, 6

— *minor*, L. 1

VERBENACEÆ

Verbena officinalis, L. 3-7, 9

A HISTORY OF WARWICKSHIRE

LABIATÆ

- Mentha sylvestris*, L. 4, 8
 var. *alopecuroides*, Hull. 4
 — *rotundifolia*, L. 1
 — *piperita*, *a. officinalis*, Hull. 1-4, 7-9
 b. vulgaris, Sole. 2, 4
 — *aquatica*, *a. hirsuta*, L. [all]
 — *sativa*, *a. rivalis*, Lond. Cat. [all]
 b. paludosa, Sole. 2, 3, 5, 6
 c. subglabra, Baker. 2, 3, 6
 — *rubra*, Sm. 2, 4-6
 — *gracilis*, Sm. 6
 — *gentilis*, L. 6
 — *arvensis*, L. 1-6, 8, 9
 — *Pulegium*, L. 1, 6
Lycopus europæus, L. [all]
Origanum vulgare, L. 4, 6
Thymus Serpyllum, L. 1-5, 7-9
 — *Chamædrys*, Fries. 2, 4-10
Calamintha officinalis, Mœnch. 1, 3, 4, 6-9
 var. *Briggitii*, Syme. 4, 7, 9
 — *Clinopodium*, Benth. [all]
 — *Acinos*, Clairv. 1, 2, 4, 5, 7-9
Salvia Verbenaca, L. 3, 4, 8
 — *pratensis*, L. 4
Nepeta Cataria, L. 2, 4-7, 9
 — *Glechoma*, Benth. [all]
 var. *parviflora*, Benth. 1, 2, 5
Scutellaria galericulata, L. [all]
 — *minor*, L. 1, 2, 6, 8
Prunella vulgaris, L. [all]
Marrubium vulgare, L. 4, 5, 9
Stachys sylvatica, L. [all]
 — *palustris*, L. [all]
 — *ambigua*, Sm. 2, 4, 6, 8-10
 — *arvensis*, L. 1, 3, 4, 7, 9
 — *Betonica*, Benth. [all]
Galeopsis Ladanum, L. 4, 5, 7-10
 — *Tetrahit*, L. [all]
 forma speciosa, Mill. 1, 2, 4-7, 8, 9
[Leonurus Cardiaca], L. 1, 4, 9
Lamium purpureum, L. [all]
 — *hybridum*, Vill. 2, 4, 6
 — *amplexicaule*, L. 1, 2, 4, 5-7, 10
 — *album*, L. [all]
 — *maculatum*, L. 1, 2, 4, 6
 — *Galeobdolon*, Crantz. [all]
Ballota nigra, L. [all]
Teucrium Scorodonia, L. [all]
Ajuga reptans, L. [all]

ILLECEBRACEÆ

- [Herniaria hirsuta]*, L. 6
Scleranthus annuus, L. 1-4, 6, 7
 — *biennis*, Reut. 4, 6

CHENOPODIACEÆ

- Chenopodium polyspermum*, L. 2, 4, 7-9
 c. album, L. [all]
 b. viride, L. [all]
 c. paginum, Reichb. 1-7
 — *urbicum*, L. 1
 — *hybridum*, L. 4, 5, 9
 — *Bonus-Henricus*, L. 1, 2, 4-7, 9, 10
 — *rubrum*, L. 2, 3, 4, 7
 — *murale*, L. 4

- Atriplex patula*, L. [all]
 var. *erecta*, Huds. 4
 var. *angustifolia*, Sm. [all]
 — *hastata*, L. 1-4, 10
 — *triangularis*, Willd. 1, 2, 4-6

POLYGONACEÆ

- Polygonum Bistorta*, L. 1-4, 6-9
 — *amphibium*, L. [all]
 — *lapathifolium*, L. 1-9
 — *maculatum*, Dyer & Trim. 1, 4
 — *Persicaria*, L. [all]
 — *mite*, Schrank. 5
 — *Hydropiper*, L. [all]
 — *minus*, Huds. 4
 — *aviculare*, L. [all]
 a. agrestinum, Jord. [all]
 b. vulgatum, Syme. [all]
 c. arenastrum, Boreau. 1-4, 6-8, 10
 d. microspermum, Jord. 2-4, 6, 7
 e. rurivagum, Jord. 2, 4-7
 — *Convolvulus*, L. [all]
[Fagopyrum esculentum], Mœnch. 1, 2, 4, 6, 8, 9
Rumex obtusifolius, L. [all]
 — *acutus*, L. 2-4, 6-8
 — *pulcher*, L. 4, 5, 7
 — *maritimus*, L. 1, 4, 5, 6
 — *crispus*, L. [all]
 — *sanguineus*, L. 1, 4, 5, 9
 b. viridis, Sibth. [all]
 — *conglomeratus*, Murray. [all]
 — *Hydrolapathum*, Huds. 1-6, 8, 9
 — *Acetosa*, L. [all]
 — *Acetosella*, L. [all]

THYMELÆACEÆ

- Daphne Laureola*, L. 4, 5, 7-9
 — *[Mezereum]*, L. 2, 8

LORANTHACEÆ

- Viscum album*, L. 1, 2, 4, 5, 9

EUPHORBIACEÆ

- Euphorbia Helioscopia*, L. [all]
 — *amygdaloides*, L. 2-4, 6, 8, 9
 — *Peplus*, L. [all]
 — *exigua*, L. [all]
[Buxus sempervirens], L. 8
Mercurialis perennis, L. [all]

URTICACEÆ

- Ulmus montana*, Sm. [all]
 b. major, Sm. 1, 2, 4, 7, 10
 c. nitida, Syme. 2, 10
 — *campestris*, Sm. [all]
 b. glabra, Mill. 1, 2, 4, 6, 10
Urtica urens, L. 1, 2, 4, 5, 7-9
 — *dioica*, L. [all]
 b. angustifolia, A. Blytt. 4
Parietaria officinalis, L. 1-6, 8
Humulus Lupulus, L. 1-9

CUPULIFERÆ

- Betula alba*, L. [all]
 — *glutinosa*, Fries. 1, 2, 6, 8, 9
Alnus glutinosa, Gært. [all]

BOTANY

Quercus Robur, *a. pedunculata*, Ehrh. [all]
c. sessiliflora, Salisb. 2-9
Fagus sylvatica, L. [all]
Corylus Avellana, L. [all]
Carpinus Betulus, L. 1-4, 6, 9

SALICINEÆ

Populus alba, L. 1, 3-8
 — *canescens*, Sm. 1, 2, 4-8
 — *tremula*, L. [all]
 [— *nigra*], L. 1-5, 7-9
Salix triandra, L. 2, 4-6, 9, 10
b. Hoffmanniana, Sm. 3-5, 7
c. amygdalina, L. [all]
 — *pentandra*, 1-4, 6, 7, 10
 — *fragilis*, L. [all]
 var. decipiens, Hoffm. 2-4, 6, 8, 10
 var. Russelliana, Sm. 1, 4, 6, 8
 — *alba*, L. [all]
 var. cærulea, Sm. 1, 4, 6, 8
 var. vitellina, L. 3, 4, 6, 8
 — *Caprea*, L. [all]
 — *cinerea*, L. [all]
 b. aquatica, Sm. 1-6, 9
 c. oleifolia, Sm. [all]
 — *aurita*, L. [all]
 — *repens*, L. 1, 2
 var. incubacea, Syme. 1, 2
 var. argentea, Sm. 1, 2
 — *nigricans*, Sm. 8
 — *Damascena*, Forbes. 8
 — *laurina*, Sm. 4, 8, 9
 — *viminialis*, L. [all]
 — *Smithiana*, Willd. 2-4, 6, 8, 9
 — *ferruginea*, G. Anders. 2, 6
 — *rugosa*, Leefe. 2-6, 8
 — *acuminata*, Sm. 2-4
 — *purpurea*, L. 8
 var. Woolgariana, Borr. 8
 var. Lambertiana, Sm. 2-5, 8, 9
 var. Helix, L. 2-6, 8, 9

CERATOPHYLLÆ

Ceratophyllum demersum. 2, 4-6, 8, 10

CONIFERÆ

[*Pinus sylvestris*], L. [all]
Taxus baccata, L. [all]

HYDROCHARIDEÆ

[*Elodea canadensis*], Michx. [all]

ORCHIDEÆ

Neottia Nidus-avis, L. 1-6, 8, 9
Listera ovata, Br. [all]
Spiranthes autumnalis, Rich. 4, 7, 8
Epipactis latifolia, Sw. 1-9
 — *palustris*, Sw. 2, 8, 9
Cephalanthera pallens, Rich. 10
 — *ensifolia*, Rich. 9
Orchis mascula, L. 1-4, 6-10
 — *latifolia*, L. 1, 2, 4, 7-9
 — *incarnata*, L. 2, 4, 7
 — *maculata*, L. [all]
 — *Morio*, L. 1, 2, 4-9
 — *pyramidalis*, L. 4, 5, 8, 9

Ophrys apifera, Huds. 1, 4, 5, 8
Habenaria conopsea, Benth. 2, 4, 5, 8, 9
 — *viridis*, Br. 1, 4, 6, 8, 9
 — *bifolia*, Br. 4
 — *chlorantha*, Bab. 1-4, 5, 8, 9

IRIDEÆ

Iris Pseud-acorus, L. [all]
 — *foetidissima*, L. 4, 6-9
 [*Crocus nudiflorus*], Sm. 4

AMARYLLIDEÆ

Narcissus Pseudo-narcissus, L. 1, 2, 4, 6, 8, 9
 — *biflorus*, Curtis. 3, 6, 8
 [— *poeticus*], L. 6
Galanthus nivalis, L. 1, 6, 9
Leucojum æstivum. 2, 7

DIOSCOREÆ

Tamus communis, L. [all]

LILIACEÆ

Convallaria majalis, L. 1-6, 8, 9
Allium vineale v. compactum, Thuill. 4-9
 — *oleraceum*, L. 4, 5, 7, 9
 — *ursinum*, L. 1-4, 6-9
Scilla nutans, Sm. [all]
Ornithogalum umbellatum, L. 4, 7
Fritillaria Meleagris, L. 3, 4, 8
Tulipa sylvestris, L. 1, 2, 4, 6
Gagea lutea, Ker. 1, 2
Colchicum autumnale, L. 1, 2, 4, 6-9
Narthecium ossifragum, Huds. 1, 2
Paris quadrifolia, L. 1-6, 8, 9

JUNCEÆ

Juncus bufonius, L. [all]
 var. fasciculatus, Koch. 1, 2, 8
 — *squarrosus*, L. 1-3, 6, 7
 — *Gerardi*, Loisel. 3-5, 7, 9
 — *glaucus*, Ehrh. [all]
 — *diffusus*, Hoppe. 1-4, 6
 — *effusus*, L. [all]
 — *conglomeratus*, L. [all]
 — *lamprocarpus*, Ehrh. [all]
 — *supinus*, Mœnch. 1-3, 6, 7, 9
 — *obtusiflorus*, Ehrh. 4-6, 8, 9
 — *acutiflorus*, Ehrh. [all]
Luzula maxima, DC. 1-4, 6, 8, 9
 — *vernalis*, DC. 1-9
 — *campestris*, Willd. [all]
 — *erecta*, Desv. [all]

TYPHACEÆ

Sparganium ramosum, Huds. [all]
 — *neglectum*, Beeby. 3, 5-8, 10
 — *simplex*, Huds. [all]
 — *minimum*, Fries. 2-4, 6
Typha latifolia, L. [all]
 var. media, Syme. 4, 5
 — *angustifolia*, L. 1, 3-6, 8, 10

AROIDEÆ

Arum maculatum, L. [all]
Acorus Calamus, L. 2-6, 10

LEMNACEÆ

Lemna minor, L. [all]

A HISTORY OF WARWICKSHIRE

- Lemna trisulca*, L. [all]
 — *gibba*, L. 1-6, 8, 9
 — *polyrhiza*, L. 1-6

ALISMACEÆ

- Alisma Plantago*, L. [all]
 var. *lanceolata*, With. 1-8
 — *ranunculoides*, L. 3, 7
Sagittaria sagittifolia, L. 1-8
Butomus umbellatus, L. [all]

NAIADACEÆ

- Triglochin palustre*, L. 1-9
Potamogeton natans, L. [all]
 — *polygonifolius*, Pourr. 1-9
 — *rufescens*, Schrad. 2-4-6
 — *heterophyllus*, Schreb. 2
 — *lucens*, L. 2-4, 6, 7, 10
 — *decipiens*, Nolte. 4
 — *perfoliatus*, L. [all]
 — *crispus*, L. [all]
 var. *serratus*, Huds. 4, 7, 9
 — *densus*, L. 3-5, 7, 8
 — *zosterifolius*, Schum. 2-6, 8, 9
 — *acutifolius*, Link. 4?
 — *obtusifolius*, Mert. & Koch. 4, 6
 — *Friesii*, Rup. 1, 4-6, 8, 10
 — *pusillus*, L. 2-4, 8
 — *pectinatus*, L. [all]
 var. *flabellatus*, Bab. 2-9
Zannichellia palustris, L. [all]

CYPERACEÆ

- Heleocharis palustris*, Br. [all]
 — *multicaulis*, Sm. 2, 4
 — *acicularis*, Sm. 1-6, 8
Scirpus lacustris, L. [all]
 — *Tabernæmontani*, Gmel. 5
 — *maritimus*, L. 5
 — *sylvaticus*, L. 1-6, 8-10
 — *setaceus*, L. 1-6, 8
 — *fluitans*, L. 1, 2, 6, 7
 — *cæspitosus*, L. 1, 2
 — *pauciflorus*, Lightft. 1, 6
 — *Caricis*, Retz. 4
Eriophorum vaginatum, L. 1, 2, 8
 — *polystachion*, L. 1-3, 5, 6, 8, 9
Rhynchospora alba, Vahl. 1, 2, 5
Schœnus nigricans, L. 1, 2
Cladium Mariscus, Br. 1
Carex pulcaris, L. 1, 2, 4, 5, 7
 — *dioica*, L. 1, 2, 6
 — *disticha*, Huds. 1-4, 6, 8, 9
 — *paniculata*, L. 1-6, 8, 9
 — *teretiuscula*, Good. 4
 var. *Ehrhartiana*, Hoppe. 1
 — *muricata*, L. [all]
 — *divulsa*, Good. 2, 4, 5-9
 — *vulpina*, L. [all]
 — *echinata*, Murr. 1, 2, 4, 6-9
 — *remota*, L. [all]
 — *axillaris*, Good. 1, 2, 6
 — *leporina*, L. [all]
 — *elongata*, L. 2
 — *canescens*, L. 1, 2
 — *acuta*, L. 2-6, 8, 9

- Carex stricta*, Good. 3, 6, 9
 — *Goodenovii*, Gay. [all]
 var. *juncella*, Fr. 1, 6, 9
 — *glauca*, Murr. [all]
 — *pallens*, L. 1-9
 — *panicea*, L. 1-9
 — *pendula*, Huds. 1-9
 — *præcox*, Jacq. 1-4, 6-8
 — *pilulifera*, L. 1, 2, 4, 7-9
 — *hirta*, L. [all]
 — *flava*, L. 1, 2, 4, 5, 8, 9
 var. *minor*, Towns. 1-4, 6-9
 — *distans*, L. 4, 5, 7
 — *fulva*, Good. 1, 6, 7, 9
 — *binervis*, Sm. 1-4, 6-9
 — *lævigata*, Sm. 1, 4, 5
 — *sylvatica*, Huds. [all]
 — *vesicaria*, L. 1, 2, 4-6, 8
 — *ampullacea*, Good. 1-4, 6, 10
 — *Pseudocyperus*, L. [all]
 — *paludosa*, Good. [all]
 — *riparia*, Curtis. 1-5, 8, 9

GRAMINEÆ

- [*Panicum Sanguinale*], Scop. 6
 — [*Crus-galli*], L. 6
Setaria viridis, Beauv. 4-6
 [*Phalaris canariensis*], L. 1, 4-6
 — *arundinacea*, L. [all]
Anthoxanthum odoratum, L. [all]
Alopecurus agrestis, L. [all]
 — *fulvus*, Sm. 1, 2, 4, 6, 8, 10
 — *geniculatus*, L. [all]
 — *pratensis*, L. [all]
Milium effusum, L. 1-9
Phleum pratense, L. [all]
 var. *nodosum*, L. 2, 4-7, 9, 10
Agrostis canina, L. 1-4, 6-10
 — *vulgaris*, With. [all]
 var. *nigra*, With. [all]
 — *alba*, L. [all]
 var. *stolonifera*, L. 4, 8
 [*Polypogon monspeliensis*], Desf. 6
Calamagrostis Epigejos, Roth. 1-9
 — *lanceolata*, Roth. 2, 3, 5, 6
Gastridium lendigerum, Gaud. 4, 8, 9
Aira caryophyllea, L. 1-4, 6, 8, 9
 — *præcox*, L. 1-4, 6, 8, 9
Deschampsia cæspitosa, Beauv. [all]
 — *flexuosa*, Trin. [all]
Holcus lanatus, L. [all]
 — *mollis*, L. [all]
Trisetum flavescens, Beauv. [all]
Avena fatua, L. [all]
 — *pratensis*, L. 2, 4, 7, 9
 [— *strigosa*], Schreb. 4
 — *pubescens*, Huds. [all]
Arrhenatherum avenaceum, Beauv. [all]
 var. *nodosum*, Reichb. 2, 4-10
Triodia decumbens, Beauv. 1-9
Phragmites communis, Trin. 1-9
Cynosurus cristatus, L. [all]
Koeleria cristata, Pers. 2, 4, 5, 7-9
Molinia cærulea, Moench. 1-8
Catabrosa aquatica, Beauv. [all]
Melica uniflora, Retz. 1-4, 6, 8, 9

BOTANY

- Dactylis glomerata*, L. [all]
Briza media, L. [all]
Poa annua, L. [all]
 — *pratensis*, L. [all]
 var. angustifolia, L. 5, 6, 8
 var. strigosa, Gaud. 4
 — *trivialis*, L. [all]
 — *nemoralis*, L. 1-9
 — *compressa*, L. 1-5, 7-10
 var. polynoda, Parn. 4-8, 10
Glyceria aquatica, Sm. 1-9
 — *fluitans*, Br. [all]
 — *plicata*, Fr. 2-9
 var. pedicellata, Towns. 1, 2, 5-10
Festuca elatior, L. [all]
 — *pratensis*, Huds. [all]
 var. loliacea, Curt. 1-5, 7
 — *gigantea*, Vill. [all]
 — *ovina*, L. 1-4, 6-8
 — *duriuscula*, L. 1, 2, 4, 8, 10
 — *rubra*, L. [all]
 — *fallax*, Th. 1-5, 8-10
 — *Myuros*, L. 1, 4, 5, 7, 10
 — *sciuroides*, Roth. [all]
 — *rigida*, Kth. 4, 5, 7-10
Bromus asper, Murr. [all]
 — *erectus*, Huds. 4, 5, 7-10
 var. villosus, Bab. 4, 5, 7
 — *sterilis*, L. [all]
 — *mollis*, L. [all]
 — *racemosus*, L. 1-4, 6-10
 var. commutatus, Schrad. 2, 4-10
 — *secalinus*, L. 1-10
 var. velutinus, Schrad. 4, 7
Brachypodium sylvaticum, R. & S. [all]
 — *pinnatum*, Beauv. 4, 5, 7-9
 var. pubescens, Symc. 4
Lolium perenne, L. [all]
 var. italicum, A. Br. 1-4, 7, 9, 10
 — *temulentum*, L. 6
Agropyrum caninum, Beauv. [all]
 — *repens*, Beauv. [all]
 var. barbatum, Duval-Jouve. 3, 5, 7-9
Nardus stricta, L. 1-3, 6-9
Hordeum murinum, L. [all]
 — *pratense*, Huds. [all]

FILICES

- Pteris aquilina*, L. [all]
Lomaria Spicant, Desv. 1, 2, 4, 6, 8, 9
Asplenium Ruta-muraria, L. [all]
 — *Trichomanes*, L. 2-4, 6, 9

- Asplenium Adiantum-nigrum*, L. 2, 4, 6, 8-10
Athyrium Filix-fœmina, Bernh. [all]
 var. rhoeticum, Roth. 1-3, 6-8, 10
 var. molle, Roth. 3, 8
 — *Ceterach*, L. 3-6, 8
Scolopendrium vulgare, Sm. 1-8
Cystopteris fragilis, Bernh. 4
Aspidium lobatum, Sw. 1-6, 8, 9
 — *aculeatum*, Sw. 1-4, 6, 8
 — *angulare*, Willd. 1-6
Nephrodium Filix-mas, Rich. [all]
 var. affinis, Fisch. 1-3, 6-9
 var. paleacea, Moore. 1-4, 6, 7, 9, 10
 — *spinulosum*, Desv. 1-4, 6-9
 — *dilatatum*, Desv. 1-4, 6-10
 — *Thelypteris*, Desv. 1, 6
 — *Oreopteris*, Desv. 1-4, 6
Polypodium vulgare, L. 1-4, 6-10
Osmunda regalis, L. 1, 2, 4
Ophioglossum vulgatum, L. 1, 2, 4-7, 9
Botrychium Lunaria, Sw. 1, 2, 4, 9

EQUISETACEÆ

- Equisetum arvense*, L. [all]
 — *maximum*, Lamk. [all]
 — *sylvaticum*, L. 1-3, 6, 8
 — *palustre*, L. 1-9
 — *limosum*, L. 1-6, 8-10
 var. fluviatile, L. 1-6
 — *hyemale*, L. 1

LYCOPODIACEÆ

- Lycopodium clavatum*, L. 1, 2
 — *inundatum*, L. 2
 — *Selago*, L. 2

MARSILEACEÆ

- Pilularia globulifera*, L. 1, 2

CHARACEÆ

- Chara fragilis*, Desv. 1-3
 var. capillacea, C. & G. 1
 var. Hedwigii, Kuetz. 2, 4, 8
 — *contraria*, Kuetz. 6
 — *vulgaris*, L. 1, 3-5, 7
 var. longibracteata, Kuetz. 1, 2, 4-8, 10
 var. papillata, Wall. 1, 5
 var. crassicaulis, Kuetz. 6
Tolypella glomerata, Leonh. 7
Nitella translucens, Agardh. 8
 — *flexilis*, Agardh. 1-4, 6
 — *opaca*, Agardh. 1, 2, 6

THE MOSSES (*Musci*)

The physical features of Warwickshire are not conducive to a varied moss flora. The atmospheric impurities which largely prevail, the great absence of the harder rocks, the high state of cultivation prevailing over its greater portion (the waste land being more limited than in any of the neighbouring counties), the very small extent of marsh, bog and heath-land, together with the total absence of mountain rocks, are all circumstances tending to a limited moss flora. Still (with the exception of

A HISTORY OF WARWICKSHIRE

Staffordshire) the Warwickshire list of mosses compares favourably with that of any of the surrounding counties. The county is poor in limestone rocks, so that lime-loving species are only found on the mud-capped walls of the lias districts in the Avon valley, or on the mortar of old walls in other portions of the county. The mortar of an old wall near Hatton is the only British locality where the lime-loving *Grimmia crinita* is to be found. The woodlands are extensive. In the Avon basin their soils are usually marl or clay, and yield many plants of interest, such as *Hypnum brevirostre*. In the more northern woods the soils are usually peaty in character, yielding a rich abundance of the more common species, such as many of the *Sphagnums* and rarely *Dicranum montanum*, which was first recorded from a Warwickshire wood as a British species. Trees growing in fields and hedges are a noticeable feature in the county, and are often tenanted by some of the rarer *Tortuli*, as *T. papillosa*, the beautiful *Cryphaea heteromalla* and the rare *Orthotrichum obtusifolium*. Heathlands are of small extent, those of Sutton, Coleshill and Kenilworth being the most extensive. A small expanse of heathland occurs near Great Wolford, yielding many of the commoner ericetal species, and from this locality *Dicranum undulatum* was first recorded as a British species. The rivers are usually softly flowing and full of beauty, but their alluvial banks are not rich in moss vegetation. The water-washed roots of the trees and shrubs that fringe their banks, however, are often clad with mosses both rare and common.

The total list of the moss flora of Warwickshire amounts to 240 species, and this is probably an exhaustive record. Comparing the Warwickshire moss flora with that of the neighbouring counties, we find that Oxfordshire has 193 species, Northamptonshire has 220 species, Leicestershire has 180 species, Staffordshire has 276 species, but in this county there are mountainous rocks and a large area of moor and bog, many rapid streams, and limestone in abundance. Worcestershire has 276 species, but has not been exhaustively examined.

In order to show roughly the distribution of the mosses enumerated, the county has been divided into the two districts watered by the rivers (1) the Tame, (2) the Severn, and the numbers made use of in the list following refer to these districts respectively.

Sphagnum cymbifolium, Ebrh. 1, 2
 var. *squarrosulum*, N. & H. 1
 var. *congestum*, Schp. 1
 — *papillosum*, Ldb. 1
 var. *confertum*, Ldb. 1
 — *subsecundum*, Nees. 1, 2
 var. *contortum*, Schp. 1, 2
 var. *obesum*, Schp. 1, 2
 var. *viride*, Boul. 1, 2
 — *teres*. Var. *subteres*, Dixon. 1
 — **squarrosum*, Pers. 1
 — *acutifolium*, Ebrh. 1
 var. *rubellum*, Russ. 1
 var. *patulum*, Schp. 1

Sphagnum Girgensohnii, Russ. 1
 — *fimbriatum*, Wils. 1
 — *intermedium*, Hoffm. 1
 — *cuspidatum*, Ebrh. 1
Tetraphis pellucida, Hedw. 1, 2
Catharinea undulata, W. & M. 1, 2
 var. *minor*, W. & M. 1
 var. *Haussknechtii*, Dixon. 1
Polytrichum nanum, Neck. 1, 2
 var. *longisetum*, Ldb. 2
 — *aloides*, Hedw. 1, 2
 var. *Dicksoni*, Wallm. 1
 — *urnigerum*, L. 1
 — *piliferum*, Schreb. 1, 2

BOTANY

- Polytrichum juniperinum*, Willd. 1, 2
 — *gracile*, Dicks. 1, 2
 — *formosum*, Hedw. 1, 2
 — *commune*, L. 1, 2
 var. *perigoniale*, B. & S. 1
 var. *minus*, Weis. 1
Archidium alternifolium, Schp. 1, 2
Pleuroidium axillare, Ldb. 1, 2
 — *subulatum*, Rab. 1, 2
 — *alternifolium*, Rab. 1
Ditrichum flexicaule, Hpe. 2
Selegeria pusilla, B. & S. 2
Ceratodon purpureus, Brid. 1, 2
Dichodontium pellucidum, Schp. 1
Dicranella heteromalla, Schp. 1, 2
 — *cerviculata*, Schp. 1
 — *crispa*, Schp. 2
 — *rufescens*, Schp. 1
 — *varia*, Schp. 1, 2
 — *Schreberi*, Schp. 1
 var. *elata*, Schp. 1
Dicranoweissia cirrata, Ldb. 1, 2
Campylopus flexuosus, Brid. 1, 2
 — *pyriformis*, Brid. 1, 2
 — *fragilis*, B. & S. 1, 2
Dicranum undulatum, Ehrh. 2
 — *spurium*, Hedw. 1
 — *Bonjeani*, De Not. 1, 2
 — *scoparium*, Hedw. 1, 2
 var. *orthophyllum*, Brid. 1, 2
 — *majus*, Turn. 1, 2
 — *fuscescens*, Turn. 1, 2
 — *montanum*, Hedw. 1, 2
Leucobryum glaucum, Schp. 1
Fissidens exilis, Hedw. 1, 2
 — *viridulus*, Wabl. 1
 var. *Lylei*, Wils. 2
 — *pusillus*, Wils. 1, 2
 — *incurvus*, Starke. 1, 2
 — *tamarindifolius*, Wils. 1, 2
 — *bryoides*, Hedw. 1, 2
 var. *inconstans*, Schp. 2
 — *crassipes*, Wils. 2
 — *adiantoides*, Hedw. 1, 2
 — *taxifolius*, Hedw. 1, 2
Grimmia apocarpa, Hedw. 1, 2
 var. *rivularis*, W. & M. 1
 var. *gracilis*, W. & M. 1, 2
 — *crinita*, Brid. 2
 — *pulvinata*, Sm. 1, 2
 β. *obtusa*, Hüb. 2
 — *trichophylla*, Grev. 2
Rhacomitrium lanuginosum, Brid. 2
 — *canescens*, Brid. 1
 — *heterostichum*, Brid. 2
Ptychomitrium polyphyllum, Färnr. 2
Hedwigia ciliata, Ehrh. 1
Acaulon muticum, C.M. 1
Phascum cuspidatum, Schreb. 1, 2
 var. *curvisetum*, N. & H. 1
Pottia truncatula, Ldb. 1, 2
 — *intermedia*, Färnr. 1, 2
 — *minutula*, Färnr. 1, 2
 — *lanceolata*, C.M. 1, 2
Tortula pusilla, Mitt. 2
 var. *incana*, Braithw. 2
 — *rigida*, Schrad. 2
 — *ambigua*, Angstr. 1, 2
 — *aloides*, De Not. 1, 2
 — *atrovirens*, Ldb. 2
 — *marginata*, Spr. 1, 2
 — *muralis*, Hedw. 1, 2
 β. *rupestris*, Wils. 1, 2
 var. *æstiva*, Brid. 1
 — *subulata*, Hedw. 1, 2
 — *mutica*, Ldb. 1, 2
 — *lævipila*, Schwgr. 1, 2
 — *intermedia*, Berk. 1, 2
 — *ruralis*, Ehrh. 1, 2
 — *papillosa*, Wils. 1, 2
Barbula lurida, Ldb. 1, 2
 — *rubella*, Mitt. 1, 2
 — *tophacea*, Mitt. 1, 2
 — *fallax*, Hedw. 1, 2
 var. *brevifolia*, Schultz. 1
 var. *brevicaulis*, Schw. 1
 — *recurvifolia*, Schp. 2
 — *spadicea*, Mitt. 1, 2
 — *rigidula*, Mitt. 1, 2
 — *cylindrica*, Schp. 1, 2
 — *vinealis*, Brid. 1, 2
 — *sinuosa*, Braithw. 1, 2
 — *Hornschuchiana*, Schultz. 1, 2
 — *revoluta*, Brid. 1, 2
 — *convoluta*, Hedw. 1, 2
 — *unguiculata*, Hedw. 1, 2
 var. *cuspidata*, Braithw. 1, 2
Leptodontium flexifolium, Hpe. 1
Weissia multicapsularis, Mitt. 1
 — *rostellata*, Ldb. 2
 — *microstoma*, C.M. 1
 — *viridula*, Hedw. 1, 2
 — *mucronata*, B. & S. 1
 — *tenuis*, C.M. 1, 2
Trichostomum tortuosum, Dixon. 1
Cinclidotus Brebissoni, Husn. 2
 — *fontinaloides*, P.B. 2
Encalypta streptocarpa, Hedw. 1, 2
Zygodon viridissimus, R. Br. 1, 2
Ulota crispa, Brid. 1, 2
 var. *intermedia*, Dixon. 1, 2
Orthotrichum rupestre, Schleich. 2
 — *anomalum*. Var. *saxatile*, Milde. 1, 2
 — *cupulatum*, Hoffm. 2
 — *leiocarpum*, B. & S. 2
 — *Lyelli*, H. & T. 1, 2
 — *affine*, Schrad. 1, 2
 var. *fastigiatum*, Hüb. 2
 — *stramineum*, Hornsch. 2
 — *tenellum*, Bruch. 1, 2

A HISTORY OF WARWICKSHIRE

- Orthotrichum diaphanum*, *Schrad.* 1, 2
 — *obtusifolium*, *Schrad.* 1, 2
Ephemerum serratum, *Hpe.* 1
Physcomitrella patens, *B. & S.* 1, 2
Physcomitrium pyriforme, *Brid.* 2
Funaria fascicularis, *Schp.* 1, 2
 — *hygrometrica*, *Sibth.* 1, 2
 var. calvescens, *B. & S.* 2
 — *microstoma*, *B. & S.* 2
Amblyodon dealbatus, *P.B.* 1
Aulacomnium palustre, *Schwgr.* 1, 2
 — *androgynum*, *Schwgr.* 1, 2
Bartramia pomiformis, *Hedw.* 1, 2
Philonotis fontana, *Brid.* 1, 2
 — *cæspitosa*, *Wils.* 1, 2
 — *calcareæ*, *Schp.* 1, 2
Leptobryum pyriforme, *Wils.* 1, 2
Webera nutans, *Hedw.* 1, 2
 — *annotina*, *Schwgr.* 1, 2
 — *carnea*, *Schp.* 1, 2
 — *albicans*, *Schp.* 1, 2
Bryum pendulum, *Schp.* 1, 2
 — *lacustre*, *Brid.* 2
 — *inclinatum*, *Bland.* 1
 — *uliginosum*, *B. & S.* 2
 — *pallens*, *Sw.* 1, 2
 — *turbinatum*, *Schwgr.* 1
 — *bimum*, *Schreb.* 1, 2
 — *pseudo-triquetrum*, *Schwgr.* 1, 2
 — *pallescent*, *Schleich.* 1
 — *affine*, *Ldb.* 1
 — *intermedium*, *Brid.* 1, 2
 — *cæspitium*, *L.* 1, 2
 — *capillare*, *L.* 1, 2
 var. macrocarpum, *Hüb.* 1, 2
 var. flaccidum, *B. & S.* 1, 2
 — *obconicum*, *Hornsch.* 2
 — *erythrocarpum*, *Schwgr.* 1, 2
 — *atropurpureum*, *W. & M.* 1, 2
 — *murale*, *Wils.* 1, 2
 — *argenteum*, *L.* 1, 2
 var. lanatum, *B. & S.* 1
 — *roseum*, *Schreb.* 1
Mnium affine, *Bland.* 1, 2
 — *rostratum*, *Schrad.* 1, 2
 — *undulatum*, *L.* 1, 2
 — *hornum*, *L.* 1, 2
 — *stellare*, *Reich.* 1, 2
 — *punctatum*, *L.* 1, 2
 — *subglobosum*, *B. & S.* 1, 2
Fontinalis antipyretica, *L.* 1, 2
 — *dolosa*, *Card.* 2
Cryphæa heteromalla, *Mohr.* 2
Neckera complanata, *Hüb.* 1, 2
Homalia trichomanoides, *Brid.* 1, 2
Leucodon sciuroides, *Schwgr.* 1, 2
Porotrichum alopecurum, *Mitt.* 1, 2
Leskea polycarpa, *Ehrh.* 1, 2
Anomodon viticulosus, *H. & T.* 1, 2
Thuidium tamariscinum, *B. & S.* 1, 2
Climacium dendroides, *W. & M.* 1, 2
Isoetecium myurum, *Brid.* 1, 2
 var. minus, *Bagn.* 2
Pleuropus sericeus, *Dixon.* 1, 2
Camptothecium lutescens, *B. & S.* 2
Brachythecium glareosum, *B. & S.* 1, 2
 — *albicans*, *B. & S.* 1, 2
 — *salebrosum*, *B. & S.* 1, 2
 var. palustre, *Schp.* 1
 — *rutabulum*, *B. & S.* 1, 2
 — *rivulare*, *B. & S.* 1, 2
 — *velutinum*, *B. & S.* 1, 2
 — *populeum*, *B. & S.* 1, 2
 — *cæspitosum*, *Dixon.* 1, 2
 — *illecebrum*, *De Not.* 2
 — *purum*, *Dixon.* 1, 2
Eurhynchium piliferum, *B. & S.* 1, 2
 — *speciosum*, *Schpr.* 1
 — *prælongum*, *B. & S.* 1, 2
 β. Stokesii, *L. Cat.* 1, 2
 — *Swartzii*, *Hobk.* 1, 2
 — *abbreviatum*, *Schp.* 2
 — *pumilum*, *Schp.* 1, 2
 — *Teesdalei*, *Schp.* 1, 2
 — *tenellum*, *Milde.* 1
 — *myosuroides*, *Schp.* 1, 2
 — *striatum*, *B. & S.* 1, 2
 — *rusciforme*, *Milde.* 1, 2
 var. atlanticum, *Brid.* 1
 — *murale*, *Milde.* 1, 2
 var. julaceum, *Schp.* 2
 — *confertum*, *Milde.* 1, 2
 — *megapolitanum*, *Milde.* 1, 2
Plagiothecium Borrerianum, *Spr.* 1, 2
 — *denticulatum*, *B. & S.* 1, 2
 β. aptychus, *L. Cat.* 1
 — *sylvaticum*, *B. & S.* 1, 2
 — *undulatum*, *B. & S.* 1, 2
 — *latebricola*, *B. & S.* 1
Amblostegium serpens, *B. & S.* 1, 2
 — *varium*, *Ldb.* 1
 — *irriguum*, *B. & S.* 1, 2
 — *fluviale*, *B. & S.* 1
 — *filicinum*, *De Not.* 1, 2
 var. Vallisclausæ, *Dixon.* 2
Hypnum riparium, *L.* 1, 2
 var. longifolium, *Schp.* 1, 2
 var. splendens, *De Not.* 1, 2
 — *elodes*, *Spr.* 2
 — *polygamum*, *Schp.* 1, 2
 var. stagnatum, *Wils.* 2
 — *stellatum*, *Schreb.* 1, 2
 — *chrysophyllum*, *Brid.* 1, 2
 — *aduncum*, *Hedw.* 1, 2
 β. Kneiffii, *Schp.* 1, 2
 var. paternum, *Samo.* 2
 — *Sendtneri*, *Schp.* 1, 2
 var. hamatum, *Ldb.* 2
 — *lycopodioides*, *Schwgr.* 2
 — *fluitans*, *L.* 1, 2

BOTANY

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|---|--|
| <p> <i>Hypnum</i> *<i>exannulatum</i>, Gumb. 1, 2
 — <i>vernicosum</i>, Ldb. 1
 — <i>revolvens</i>, Sw. 1, 2
 <i>β. Cossoni</i>, Ren. 1, 2
 — *<i>intermedium</i>, Ldb. 1, 2
 — <i>commutatum</i>, Hedw. 1, 2
 — <i>falcatum</i>, Brid. 1, 2
 — <i>cupressiforme</i>, L. 1, 2
 var. <i>resupinatum</i>, Schp. 1, 2
 var. <i>filiforme</i>, Brid. 1, 2
 var. <i>ericetorum</i>, B. & S. 1, 2
 var. <i>tectorum</i>, Brid. 1, 2
 var. <i>elatum</i>, B. & S. 1, 2
 — <i>Patientiæ</i>, Ldb. 1, 2 </p> | <p> <i>Hypnum</i> <i>molluscum</i>, Hedw. 1, 2
 <i>Limnobium</i> <i>palustre</i>, L. 1, 2
 <i>Calliergon</i> <i>stramineum</i>, Dicks. 1
 — <i>cordifolium</i>, Hedw. 1, 2
 — <i>giganteum</i>, Schp. 1, 2
 — <i>cuspidatum</i>, L. 1, 2
 var. <i>pungens</i>, Schp. 2
 — <i>Schreberi</i>, Willd. 1, 2
 <i>Hylocomium</i> <i>splendens</i>, B. & S. 1, 2
 — <i>brevirostre</i>, B. & S. 2
 — <i>loreum</i>, B. & S. 2
 — <i>squarrosum</i>, B. & S. 1, 2
 <i>β. calvescens</i>, Hobk. 2
 — <i>triquetrum</i>, B. & S. 1, 2 </p> |
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THE LIVERWORTS (*Hepaticæ*)

The natural features of Warwickshire are not conducive to a rich or varied growth of the liverworts. These plants are usually found on mountain rocks or wild moorlands, on the banks of rapid streams, or where the constant spray of the waterfall keeps their home damp. In Warwickshire the comparative absence of such conditions would naturally limit the occurrence of any but the more common species. The total number of liverworts recorded for Great Britain is 220, but for Warwickshire only 50 species. The poverty of this record is in a measure due to the fact that this portion of the county flora has been neglected. Among the records the more rare are *Cephalozia lunulæfolia*, one of the very rare hepatics, the sporadic *Riccia crystallina*, only once seen and then in great abundance, and *Prionolobus Turneri* only recorded from three other British stations.

Of the neighbouring counties Oxfordshire has only 26 recorded species, Leicestershire 48 species, Staffordshire 69 species, Worcestershire 40 species, while for Northamptonshire there is no record.

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| <p> <i>Frullania</i> <i>Tamarisci</i> (L.)
 — <i>dilatata</i> (L.)
 <i>Radula</i> <i>complanata</i> (L.)
 <i>Porella</i> <i>platyphylla</i> (L.)
 <i>Trichocolea</i> <i>tomentella</i> (Ehrh.)
 <i>Lepidozia</i> <i>reptans</i> (L.)
 <i>Kantia</i> <i>trichomanis</i> (L.)
 <i>Cephalozia</i> <i>lunulæfolia</i> (Dum.)
 — <i>bicuspidata</i> (L.)
 — <i>Lammersiana</i> (Hüb.)
 — <i>connivens</i> (Dicks.)
 — <i>curvifolia</i> ? (Dicks.)
 — <i>divaricata</i> (Sm.)
 — <i>stellulifera</i> (Tayl.)
 <i>Prionolobus</i> <i>Turneri</i> (Hook.)
 <i>Scapania</i> <i>nemorosa</i> (L.)
 — <i>undulata</i> (L.)
 — <i>irrigua</i> (Nees)
 — <i>curta</i> (Mart.)
 <i>Diplophyllum</i> <i>albicans</i> (L.) </p> | <p> <i>Lophocolea</i> <i>bidentata</i> (L.)
 — <i>cuspidata</i> (Limpr.)
 — <i>heterophylla</i> (Schrad.)
 <i>Chiloscyphus</i> <i>polyanthos</i> (L.)
 <i>b. rivularis</i>, Nees
 <i>Plagiochila</i> <i>asplenioides</i> (L.)
 <i>c. minor</i> (Carr & Pears)
 <i>Jungermannia</i> <i>cordifolia</i> (Hook.)
 — <i>inflata</i> (Huds.)
 — <i>turbinata</i> (Raddi.)
 — <i>sphærocarpa</i> (Hook.)
 — <i>capitata</i> (Hook.)
 — <i>bicrenata</i> (Schmid.)
 — <i>porphyroleuca</i> (Nees)
 — <i>ventricosa</i> (Dicks.)
 — <i>crenulata</i> (Sm.)
 <i>Nardia</i> <i>scalaris</i> (Schrad.)
 <i>Fossombronia</i> <i>pusilla</i> (L.)
 <i>Pellia</i> <i>epiphylla</i> (L.)
 — <i>calycina</i> (Tayl.) </p> |
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A HISTORY OF WARWICKSHIRE

Aneura multifida (L.)
 --- *sinuata* (Dicks.)
 --- *pinguis* (L.)
Metzgeria furcata (L.)
Marchantia polymorpha (L.)
Conocephalus conicus (L.)
Reboulia hemisphærica (L.)

Lunularia cruciata (L.)
Riccia glauca (L.)
 --- *crystallina* (L.)
 --- *glaucescens* (Carr.)
Ricciella fluitans (L.)
Anthoceros lævis (L.)
 --- *punctatus* (L.)

THE FRESHWATER ALGÆ

The following list—a very incomplete record of the Warwickshire freshwater algæ—represents only the imperfect examination of a limited portion of the northern division of the county. A systematic examination of the county as a whole would materially increase the number of plants recorded. The records of Purton and the elder botanists have not been included in the following list as those were few and not always reliable.

Pleurococcus vulgaris (Menegh.)
Porphyridium cruentum (Nägeli)
Botrydina vulgaris (Bréb.)
Tetraspora bullosa (Ag.)
 --- *lubrica* (Ag.)
Apiocystis Brauniana (Nägeli)
Protococcus viridis (Cohn)
Scenedesmus quadricaudatus (Bréb.)
 --- *acutus* (Meyen)
 --- *obtus* (Meyen)
Pediastrum Boryanum (Turp.)
Hydrodictyon utriculatum (Roth.)
Chlamydococcus pluvialis (A. Braun)
Volvox globator (L.)
Pandorina morum, Ehrenb.
Gonium pectorale, Müll.
Micrasterias rotata (Ralfs.)
 --- *denticulata* (Bréb.)
 --- *truncata* (Corda)
 --- *crenata* (Bréb.)
Euastrum verrucosum (Ehrenb.)
Zygnema cruciatum (Vauch.)
Spirogyra nitida (Dill.)
 --- *condensata* (Vauch.)
 --- *flavescens* (Hass.)
 --- *longata* (Vauch.)
 var. communis (Dill.)
Mesocarpus pleurocarpus (De Bary)
 --- *scalaris* (Hass.)
Botrydium granulatum (L.)
Vaucheria terrestris (Lyngb.)
 --- *sessilis* (Vauch.)

Vaucheria Dillwynii (Hass.)
 --- *geminata* (Vauch.)
Prasiola crispa (Kütz)
Enteromorpha intestinalis (Link.)
Cladophora crispata (Roth.)
 --- *glomerata* (L.)
Bulbochæte setigera (Ag.)
Schizogonium murale (Kütz)
Stigeoclonium nanum (Dill.)
Draparnaldia glomerata (Ag.)
 --- *plumosa* (Vauch.)
Chætophora elegans (Ag.)
 --- *endivæfolia* (Ag.)
Coleochæte scutata (Bréb.)
Aphanocapsa virescens (Nag.)
Nostoc commune (Vauch.)
 --- *sphæricum* (Vauch.)
 --- *cæruleum* (Lyngb.)
 --- *verrucosum* (Vauch.)
Oscillaria tenuis (Ag.)
 --- *muscorum* (Carm.) *MS.*
 --- *limosa* (Ag.)
 --- *nigra* (Vauch.)
Lyngbya ochracea (Thur.)
Tolypothrix distorta (Müll.)
Gloietrichia natans (Thur.)
 --- *pisum* (Thur.)
Batrachospermum vagum (Harv.)
 --- *confusum* (Harv.)
 --- *atrum* (Harv.)
Lemanea fluviatilis (Agardh.)

BOTANY

THE LICHENS (*Lichenes*)

Very little is known as to the distribution of the lichens in Warwickshire. The records of the elder botanists are few, are in some instances doubtful, and can rarely be received with confidence, except when they treat of the more readily recognized species. The natural and artificial conditions prevailing in the county are not indeed favourable to a rich lichen flora. Lichens naturally depend on light and pure atmospheric surroundings for their existence or full development; and being of slow growth they cannot attain maturity under conditions of frequent interference, from the surface alterations that are inseparable from thickly-populated manufacturing districts. In a contaminated atmosphere or in shady crevices these plants will not come to perfection, but will assume the form of a *Lepraria*, which is an abnormal condition of many of the lichens. The yellow powdery and white patches common on oaks are examples of this state. Still in those portions of the county remote from large towns many of the more common species occur in abundance. On the trees a rich growth of *Ramalina fraxinea*, *Parmelia caperata* and *Physcia ciliaris*; on heathy footways tiny forests of *Cladonia pyxidata* or *C. cornucopioides*; on the stone coping of walls and bridges grey masses of *Lecanora atra* or *Lecidea lucida*; in damp woods *Cladonia digitata* or the more common *Peltigera canina*; on old palings *Parmelia olivacea* and *Usnea barbata*, and on old walls and slated roofs the golden fronds of *Physcia parietina*, every sort and condition of habitat being the home of one or other of the lichens. The following list is an incomplete record of the Warwickshire lichens:—

Collema crispum (Huds.)
 — *nigrescens* (Huds.)
Leptogium lacerum (Ach.)
 — *fragrans* (Sm.)
Sphinctrina turbinata (Pers.)
 — *anglica* (Nyl.)
Calicium phæocephalum (Borr.)
 — *trichiale* (Ach.) var. *ferrugineum* (Borr.)
 — *hyperellum* (Ach.)
 — *trachelinum* (Ach.)
 — *quercinum* (Pers.)
 — *curtum* (Borr.)
 — *subtile* (Pers.)
Coniocybe furfuracea (Ach.)
Trachylia tympanella (Fr.)
Cladonia cervicornis (Schær.)
 — *alcicornis* (Flk.)
 — *pyxidata* (Fr.)
 var. *fimbriata* (Hoffm.)
 — *furcata* (Hoffm.)
 — *squamosa* (Hoffm.)
 — *cornucopioides* (Fr.)
 — *digitata* (Hoffm.)
 var. *macilenta* (Hoffm.)
Cladina sylvatica (Hoffm.)

Cladina rangiferina (Hoffm.)
 — *uncialis* (Hoffm.)
Stereocaulon paschale (Ach.)
Usnea barbata f. *florida* (L.)
 f. *hirta* (L.)
 f. *plicata* (L.)
Alectoria jubata (L.)
 — *lanata* (L.)
Evernia furfuracea (Mann.)
 — *prunastri* (L.)
Ramalina farinacea (L.)
 — *fraxinea* (L.)
 — *fastigiata* (Pers.)
Cetraria aculeata (Fr.)
Platysma glaucum (L.)
Peltigera canina (L.)
 — *rufescens* (Hoffm.)
Stictina scrobiculata (Scop.)
Sticta pulmonaria (Ach.)
Parmelia caperata (L.)
 — *olivacea* (L.)
 — *physodes* (L.)
 — *ambigua* (Wulf.)
 — *perlata* (L.)
 — *tiliacea* (Ach.)
 var. *scorteia* (Ach.)

A HISTORY OF WARWICKSHIRE

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|---|--|
| <p> <i>Parmelia conspersa</i> (Ehrh.)
 — <i>acetabulum</i> (Neck.)
 — <i>saxatilis</i> (L.)
 <i>Physcia parietina</i> (L.)
 var. <i>lychnea</i> (Ach.)
 var. <i>polycarpa</i> (Ehrh.)
 — <i>ciliaris</i> (L.)
 — <i>pulverulenta</i> (Schreb.)
 var. <i>pityrea</i> (Ach.)
 — <i>stellaris</i> (L.)
 var. <i>tenella</i>, Scop.
 var. <i>cæsia</i> (Hoffm.)
 <i>Pannaria pezizoides</i> (Web.)
 — <i>nigra</i> (Huds.)
 <i>Squamaria saxicola</i> (Poll.)
 <i>Placodium murorum</i> (Hoffm.)
 — <i>citrinum</i> (Ach.)
 <i>Lecanora vitellina</i> (Ach.)
 — <i>candelaria</i> (Ach.)
 — <i>glauocarpa</i> f. <i>pruinosa</i> (Sm.)
 — <i>varia</i> (Ehrh.)
 — <i>atra</i> (Huds.)
 — <i>sulphurea</i> (Hoffm.)
 — <i>circinata</i> (Pers.)
 — <i>subfusca</i> (L.)
 — <i>galactina</i> (Ach.)
 — <i>calcareæ</i> f. <i>Hoffmanni</i> (Ach.)
 — <i>parella</i> (L.)
 f. <i>pallescens</i> (L.)
 — <i>rupestris</i> f. <i>calva</i> (Dicks.)
 — <i>albella</i> (Pers.)
 — <i>aurantiaca</i> (Lightf.)
 — <i>ferruginea</i> (Huds.)
 — <i>cerina</i> (Ehrh.)
 — <i>pyracea</i> (Ach.)
 f. <i>ulmicola</i> (DC.)
 — <i>arenaria</i> (Pers.)
 — <i>sophodes</i> (Ach.)
 <i>Pertusaria communis</i> (DC.)
 — <i>fallax</i> (Pers.)
 <i>Phylictis agelæa</i> (Ach.) </p> | <p> <i>Thelotrema lepadinum</i> (Ach.)
 <i>Urceolaria scruposa</i> (L.)
 <i>Lecidea ostreata</i> (Hoffm.)
 — <i>lucida</i> (Ach.)
 — <i>flexuosa</i> f. <i>æruginea</i> (Borr.)
 — <i>dubia</i> (Borr.)
 — <i>quernea</i> (Dicks.)
 — <i>viridescens</i> (Schrad.)
 — <i>parasema</i> (Ach.)
 — <i>canescens</i> (Dicks.)
 — <i>myriocarpa</i> (DC.)
 — <i>grossa</i> (Pers.)
 — <i>tricolor</i> (With.)
 — <i>Ehrhartiana</i> (Ach.)
 — <i>alboatra</i> (Hoffm.)
 f. <i>epipolia</i> (Ach.)
 — <i>pachycarpa</i> (Duf.)
 — <i>endoleuca</i> (Nyl.)
 — <i>rubella</i> (Ehrh.)
 — <i>cupularis</i> (Ehrh.)
 <i>Opegrapha atra</i> (Pers.)
 — <i>varia</i> (Pers.)
 — <i>vulgata</i>, Ach.
 — <i>lyncea</i> (Sm.)
 <i>Arthonia lurida</i> (Ach.)
 — <i>astroidea</i> (Ach.)
 — <i>Swartziana</i> (Ach.)
 — <i>pruinosa</i> (Ach.)
 <i>Graphis elegans</i> (Sm.)
 — <i>scripta</i> (Ach.)
 f. <i>varia</i> (Leight.)
 var. <i>serpentina</i> (Ach.)
 — <i>dendritica</i> (Ach.)
 — <i>sophistica</i> var. <i>pulverulenta</i> (Sm.)
 <i>Verrucaria epigææ</i>, Pers.
 — <i>viridula</i> (Schrad.)
 — <i>gemmata</i> (Ach.)
 — <i>epidermidis</i> (Ach.)
 var. <i>analepta</i> (Ach.)
 — <i>biformis</i> (Borr.)
 — <i>nitida</i> (Weig.) </p> |
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THE FUNGI

The following list of the fungi of Warwickshire is an attempt to place on record all that has been done towards this study by past and present workers so far as the writer's knowledge extends. This list, though an extensive one, cannot claim to be complete. Only portions of the county have been worked, and those portions far from exhaustively.

The attempt has been made to determine the species, as understood by Withering and Purton, by comparing their descriptions and quoted figures with the latest views of Fries, and the writer believes this has been done satisfactorily.

Advantage has been taken of the extensive series of coloured illustrations of fungi from the neighbourhood of Kenilworth and Warwick which is now in the British Museum. These were executed by the late

BOTANY

Mrs. Russell of Kenilworth, and most of her specimens were named or confirmed by eminent authorities. The writer must acknowledge his indebtedness to the late Rev. W. W. Newbould for all his knowledge of these plates. Many MS. notes have been received from the Rev. D. C. O. Adams of the fungi found by him in the neighbourhood of Combe, Ansty and Brinklow, and the list owes much of its completeness to the indefatigable zeal of his coadjutor Mr. W. B. Grove, M.A.

The classification and nomenclature is that of Fries in his very valuable *Hymenomycetes Europæi*. The record of the fungi of Warwickshire is believed to be larger than that of any of the midland counties, but this is greatly due to the fact that two of the most eminent British mycologists, Withering and Purton, left behind them so excellent a record of the fungus wealth of the county.

A LIST OF THE FUNGI

Ord. I. AGARICINI

Genus I. AGARICUS (L.)

Sub-genus I. AMANITA (Fr.)

Agaricus phalloides (Fr.)

var. *vernus*, Bull.

- *mappa* (Fr.)
- *muscarius* (L.)
- *pantherinus* (DC.)
- *excelsus* (Fr.)
- *rubescens* (Pers.)
- *nitidus* (Fr.)
- *asper* (Fr.)
- *vaginatus* (Bull.)
- *strangulatus* (Fr.)

Sub-genus II. LEPIOTA (Fr.)

Agaricus procerus (Scop.)

- *rachodes* (Vitt.)
- *excoriatus* (Schæff.)
- *gracilentus* (Kromb.)
- *acutesquamosus* (Weinm.)
- *clypeolarius* (Bull.)
- *cristatus* (Fr.)
- *cepæstipes* (Sow.)
- *carcharias* (Pers.)
- *granulosus* (Batsch.)
- *amianthinus* (Scop.)
- *polystictus* (Berk.)

Sub-genus III. ARMILLARIA (Fr.)

Agaricus melleus (Vahl.)

- *ramentaceus* (Bull.)

Sub-genus IV. TRICHOLOMA (Fr.)

Agaricus sejunctus (Sow.)

- *portentosus* (Fr.)
- *fucatus* (Fr.)
- *spermaticus* (Fr.)
- *nictitans* (Fr.)
- *flavo-brunneus* (Fr.)

Agaricus albo-brunneus (Pers.)

- *pessundatus* (Fr.)
- *stans* (Fr.)
- *rutilans* (Schæff.)
- *luridus* (Schæff.)
- *columbetta* (Fr.)
- *scalpturatus* (Fr.)
- *imbricatus* (Fr.)
- *vaccinus* (Pers.)
- *terreus* (Schæff.)
- *saponaceus* (Fr.)
- *cuneifolius* (Fr.)
- *murinaceus* (Bull.)
- *virgatus* (Fr.)
- *sulphureus* (Bull.)
- *inamœnus* (Fr.)
- *carneus* (Bull.)
- *gambosus* (Fr.)
- *borealis* (Fr.)
- *albus* (Schæff.)
- *acerbus* (Bull.)
- *personatus* (Fr.)
- *nudus* (Bull.)
- *cinerascens* (Bull.)
- *grammopodius* (Bull.)
- *melaleucus* (Pers.)
- *brevipes* (Bull.)
- *humilis* (Fr.)
- *pædidus* (Fr.)

Sub-genus V. CLITOCYBE (Fr.)

Agaricus nebularis (Batsch.)

- *clavipes* (Pers.)
- *inornatus* (Sow.)
- *odorus* (Bull.)
- *cerussatus* (Fr.)
- *phyllophilus* (Fr.)
- *pithyophilus* (Fr.)
- *candicans* (Pers.)
- *dealbatus* (Fr.)
- *gallinaceus* (Scop.)

A HISTORY OF WARWICKSHIRE

Agaricus fumosus (Pers.)
 — *opacus* (With.)
 — *giganteus* (Fr.)
 — *maximus* (Fr.)
 — *infundibuliformis* (Schæff.)
 — *geotropus* (Bull.)
 — *inversus* (Scop.)
 — *flaccidus* (Sow.)
 — *catinus* (Fr.)
 — *tuba* (Fr.)
 — *cyathiformis* (Fr.)
 — *brumalis* (Fr.)
 — *metachrous* (Fr.)
 — *ditopus* (Fr.)
 — *fragrans* (Sow.)
 — *obsoletus* (Batsch.)
 — *laccatus* (Scop.)

Sub-genus VI. COLLYBIA (Fr.)

Agaricus radicans (Relhn.)
 — *platyphyllus* (Fr.)
 — *fusipes* (Bull.)
 — *maculatus* (Alb. et Schwein.)
 — *butyraceus* (Bull.)
 — *velutipes* (Curt.)
 — *vertirugis* (Cooke.)
 — *hariolorum* (DC.)
 — *confluens* (Pers.)
 — *conigenus* (Pers.)
 — *cirrhatu* (Schum.)
 — *tuberosus* (Bull.)
 — *collinus* (Scop.)
 — *esculentus* (Wulf.)
 — *tenacellus* (Pers.)
 — *acervatus* (Fr.)
 — *dryophilus* (Bull.)
 — *rancidus* (Fr.)
 — *inolens* (Fr.)

Sub-genus VII. MYCENA (Fr.)

Agaricus purus (Pers.)
 — *pseudo-purus* (Cooke)
 — *luteo-albus* (Bolt.)
 — *flavo-albus* (Fr.)
 — *lacteus* (Pers.)
 — *rugosus* (Fr.)
 — *galericulatus* (Scop.)
 — *polygrammus* (Bull.)
 — *pullatus* (Berk. et Cooke)
 — *pauperculus* (Berk.)
 — *leptocephalus* (Pers.)
 — *alcalinus* (Fr.)
 — *ammoniacus* (Fr.)
 — *metatus* (Fr.)
 — *stanneus* (Fr.)
 — *vitreus* (Fr.)
 — *tenuis* (Bolt.)
 — *filopes* (Bull.)
 — *amictus* (Fr.)
 — *vitis* (Fr.)

Agaricus acicula (Schæff.)
 — *sanguinolentus* (A. et S.)
 — *galopus* (Pers.)
 — *leucogalus* (Cooke)
 — *epipterygius* (Scop.)
 — *vulgaris* (Pers.)
 — *tenerrimus* (Berk.)
 — *electricus* (Buckn.)
 — *corticola* (Schum.)

Sub-genus VIII. OMPHALIA (Fr.)

Agaricus pyxidatus (Bull.)
 — *sphagnicola* (Berk.)
 — *hepaticus* (Batsch.)
 — *muralis* (Sow.)
 — *umbelliferus* (Linn.)
 — *pseudo-androsaceus* (Bull.)
 — *stellatus* (Fr.)
 — *campanella* (Batsch.)
 — *fibula* (Bull.)
 — *integrellus* (Pers.)

Sub-genus IX. PLEUROTUS (Fr.)

Agaricus corticatus (Fr.)
 — *dryinus* (Pers.)
 — *ulmarius* (Bull.)
 — *subpalmatus* (Fr.)
 — *craspedius* (Fr.)
 — *fimbriatus* (Bolt.)
 — *lignatilis* (Fr.)
 — *ostreatus* (Jacq.)
 — *euosmus* (Berk.)
 — *salignus* (Fr.)
 — *petaloides* (Bull.)
 — *acerosus* (Fr.)
 — *applicatus* (Batsch.)
 — *chioneus* (Pers.)

Sub-genus X. VOLVARIA (Fr.)

Agaricus volvaceus (Bull.)
 — *speciosus* (Fr.)
 — *gloiocephalus* (DC.)
 — *parvulus* (Weinm.)

Sub-genus XI. PLUTEUS (Fr.)

Agaricus cervinus (Schæff.)
 — *umbrosus* (Pers.)
 — *nanus* (Pers.)
 — *chrysophæus* (Schæff.)
 — *phlebophorus* (Dittm.)

Sub-genus XII. ENTOLOMA (Fr.)

Agaricus sinuatus (Fr.)
 — *lividus* (Bull.)
 — *prunuloides* (Fr.)
 — *repandus* (Bull.)
 — *ameides* (B. et Br.)
 — *Saundersii* (Fr.)
 — *jubatus* (Fr.)
 — *griseocyaneus* (Fr.)

BOTANY

Agaricus sericellus (Fr.)

— *clypeatus* (Linn.)

— *rhodopolius* (Fr.)

— *costatus* (Fr.)

— *sericeus* (Bull.)

— *nidosus* (Fr.)

Sub-genus XIII. *CLITOPILUS* (Fr.)

Agaricus prunulus (Scop.)

— *undatus* (Fr.)

— *cancrinus* (Fr.)

— *carneo-albus* (With.)

Sub-genus XIV. *LEPTONIA* (Fr.)

Agaricus lampropus (Fr.)

— *serrulatus* (Pers.)

— *euchrous* (Pers.)

— *chalybæus* (Pers.)

— *incanus* (Fr.)

— *asprellus* (Fr.)

Sub-genus XV. *NOLANEA* (Fr.)

Agaricus pascuus (Pers.)

— *mammosus* (Fr.)

— *pisciodorus* (Ces.)

Sub-genus XVI. *CLAUDOPUS* (Fr.)

Agaricus variabilis (Pers.)

Sub-genus XVII. *PHOLIOTA* (Fr.)

Agaricus terrigenus (Fr.)

— *erebius* (Fr.)

— *durus* (Bolt.)

— *præcox* (Pers.)

— *radicosus* (Bull.)

— *pudicus* (Bull.)

— *heteroclitus* (Fr.)

— *squarrosus* (Müll.)

— *spectabilis* (Fr.)

— *adiposus* (Fr.)

— *mutabilis* (Schæff.)

— *marginatus*, Batsch

— *mycenoides* (Fr.)

Sub-genus XVIII. *INOCYBE* (Fr.)

Agaricus lanuginosus (Bull.)

— *scaber* (Müll.)

— *lacerus* (Fr.)

— *flocculosus* (Berk.)

— *Bongardii* (Weinm.)

— *obscurus* (Pers.)

— *hæmactus* (B. et C.)

— *fastigiatus*, Schæff.

— *rimosus* (Bull.)

— *asterosporus* (Quel.)

— *eutheles* (B. et Br.)

— *descissus* (Fr.)

— *sindonium* (Fr.)

— *geophyllus* (Sow.)

— *trechisporus* (Berk.)

Sub-genus XIX. *HEBELOMA* (Fr.)

Agaricus fastibilis (Fr.)

— *testaceus* (Batsch.)

— *versipellis*, Fr.

— *mesophæus*, Fr.

— *sinapizans* (Fr.)

— *crustuliniformis*, Bull

— *elatus* (Batsch.)

— *longicaudus* (Pers.)

Sub-genus XX. *FLAMMULA* (Fr.)

Agaricus lentus, Pers.

— *gummosus*, Lasch.

— *carbonarius* (Fur.)

— *flavidus* (Schæff.)

— *conissans* (Fr.)

— *inopus* (Fr.)

— *sapineus* (Fr.)

Sub-genus XXI. *NAUCORIA* (Fr.)

Agaricus cucumis (Pers.)

— *melinoides* (Fr.)

— *striæpes* (Cooke)

— *sideroides* (Bull.)

— *pediades* (Fr.)

— *semiorbicularis* (Bull.)

— *sobrius* (Fr.)

— *erinaceus* (Fr.)

— *conspersus* (Pers.)

— *escharoides* (Fr.)

Sub-genus XXII. *GALERA* (Fr.)

Agaricus lateritius (Fr.)

— *tener* (Schæff.)

— *ovalis* (Fr.)

— *antipus* (Lasch.)

— *sparteus* (Fr.)

— *rubiginosus* (Pers.)

— *hypnorum* (Batsch.)

— *mycenopsis* (Fr.)

Sub-genus XXIII. *TUBARIA* (Fr.)

Agaricus furfuraceus (Pers.)

Sub-genus XXIV. *CREPIDOTUS* (Fr.)

Agaricus mollis (Schæff.)

— *haustellaris* (Fr.)

— *rubi* (Berk.)

— *pezizoides* (Nees.)

Sub-genus XXV. *PSALLIOTA* (Fr.)

Agaricus arvensis (Schæff.)

— *campestris* (Linn.)

— *silvaticus* (Schæff.)

Sub-genus XXVI. *STROPHARIA* (Fr.)

Agaricus versicolor (With.)

— *æruginosus* (Curt.)

— *albo-cyaneus* (Desm.)

— *coronillus* (Bull.)

A HISTORY OF WARWICKSHIRE

Agaricus melaspermus (Bull.)

- squamosus (Fr.)
- thraustus (Kalch.)
- luteo-nitens (Fr.)
- merdarius (Fr.)
- stercorarius (Fr.)
- semiglobatus (Batsch.)

Sub-genus XXVII. HYPHOLOMA

Agaricus sublateralis (Fr.)

- epixanthus (Fr.)
- fascicularis (Huds.)
- lacrymabundus (Fr.)
- velutinus (Fr.)
- Candolleanus (Fr.)
- appendiculatus (Bull.)
- egenulus (B. et Br.)
- hydrophilus (Bull.)

Sub-genus XXVIII. PSILOCYBE, Fr.

Agaricus sarcocephalus (Fr.)

- ericæus (Pers.)
- udus (Pers.)
- areolatus (Klotsch.)
- atro-rufus (Schæff.)
- comptus (Fr.)
- semilanceatus (Fr.)
- spadiceus (Fr.)
- cernuus (Müll.)
- foeniseii (Pers.)
- clivensis (Berk.)

Sub-genus XXIX. PSATHYRA (Pers.)

Agaricus conopileus (Fr.)

- mastiger (B. et Br.)
- corrugis (Pers.)
- spadiceogriseus (Schæff.)
- obtusatus (Fr.)
- semivestitus (Berk. et Br.)
- fibrillosus (Pers.)
- pennatus (Fr.)
- gossypinus (Bull.)

Sub-genus XXX. PANÆOLUS (Fr.)

Agaricus separatus (Linn.)

- leucophanes (B. et Br.)
- fimiputris (Bull.)
- phalænarum (Fr.)
- retirugis (Fr.)
- campanulatus (Linn.)
- papilionaceus (Fr.)
- acuminatus (Fr.)

Sub-genus XXXI. PSATHYRELLA

Agaricus gracilis (Fr.)

- pronus (Fr.)
- atomatus (Fr.)
- disseminatus (Fr.)

Genus II. COPRINUS (Fr.)

Coprinus comatus (Fr.)

- ovatus (Fr.)
- sterquilinus (Fr.)
- atramentarius (Fr.)
- picaceus (Fr.)
- similis (B. et Br.)
- fimetarius (Fr.)
- tomentosus (Fr.)
- niveus (Fr.)
- micaceus (Fr.)
- radians (Fr.)
- deliquescens (Fr.)
- congregatus (Fr.)
- Hendersonii (Berk.)
- lagopus (Fr.)
- nycthemerus (Fr.)
- radiatus (Fr.)
- domesticus (Fr.)
- ephemerus (Fr.)
- plicatilis (Fr.)

Genus III. BOLBITIUS (Fr.)

Bolbitius Boltonii (Fr.)

- fragilis (Fr.)
- titubans (Fr.)
- apicalis (Smith)
- tener (Berk.)

Genus IV. CORTINARIUS (Fr.)

Cortinarius varius (Fr.)

- cyanopus (Fr.)
- variicolor (Fr.)
- anfractus (Fr.)
- multiformis (Fr.)
- talus (Fr.)
- glaucopus (Fr.)
- calochrous (Fr.)
- purpurascens (Fr.)
- turbinatus (Fr.)
- orichalceus (Batsch.)
- scaurus (Fr.)
- collinitus (Fr.)
- mucifluus (Fr.)
- elatior (Fr.)
- delibutus (Fr.)
- stillatitius (Fr.)
- violaceus (Fr.)
- callisteus (Fr.)
- bolaris (Fr.)
- pholideus (Fr.)
- ochroleucus (Fr.)
- tabularis (Fr.)
- caninus (Fr.)
- anomalus (Fr.)
- sanguineus (Fr.)
- cinnamomeus (Fr.)
- uliginosus (Berk.)
- raphanoides (Fr.)

BOTANY

Agaricus bulbosus (Fr.)

- torvus (Fr.)
- armillatus (Fr.)
- hinnuleus (Fr.)
- brunneus (Fr.)
- periscelis (Fr.)
- iliopodius (Fr.)
- hemitrichus (Fr.)
- rigidus (Fr.)
- paleaceus (Fr.)
- armeniacus (Fr.)
- castaneus (Fr.)
- leucopus (Fr.)
- decipiens (Fr.)
- acutus (Fr.)

Genus V. GOMPHIDIUS (Fr.)

Gomphidius glutinosus (Fr.)

- viscidus (Fr.)
- maculatus (Scop.)
- gracilis (B. et Br.)

Genus VI. PAXILLUS (Fr.)

Paxillus involutus (Fr.)

Genus VII. HYGROPHORUS (Fr.)

Hygrophorus chrysodon (Fr.)

- eburneus (Fr.)
- arbustivus (Fr.)
- olivaceo-albus (Fr.)
- hypothejus (Fr.)
- pratensis (Fr.)
- virgineus (Fr.)
- ventricosus (B. et Br.)
- russo-coriaceus (Fr.)
- distans (Berk.)
- ovinus (Fr.)
- Colemanianus (Blox.)
- ceraceus (Fr.)
- coccineus (Fr.)
- miniatus (Fr.)
- puniceus (Fr.)
- conicus (Fr.)
- calyptræformis (B. et Br.)
- chlorophanus (Fr.)
- psittacinus (Fr.)
- unguinosus (Fr.)

Genus VIII. LACTARIUS (Fr.)

Lactarius torminosus (Fr.)

- cilicioides (Fr.)
- turpis (Fr.)
- controversus (Fr.)
- insulsus (Fr.)
- zonarius (Fr.)
- utilis (Weinm.)
- biennius (Fr.)
- hysginus (Fr.)
- circellatus (Fr.)

Lactarius uvidus (Fr.)

- pyrogalus (Fr.)
- chrysorheus (Fr.)
- plumbeus (Fr.)
- pergamenus (Fr.)
- piperatus (Fr.)
- vellereus (Fr.)
- deliciosus (Fr.)
- pallidus (Fr.)
- quietus (Fr.)
- theiogalus (Fr.)
- cyathula (Fr.)
- rufus (Fr.)
- glyciosmus (Fr.)
- fuliginosus (Fr.)
- volemus (Fr.)
- seriffuus (Fr.)
- mitissimus (Fr.)
- subdulcis (Fr.)
- camphoratus (Fr.)

Genus IX. RUSSULA (Fr.)

Russula nigricans (Fr.)

- adusta (Fr.)
- delica (Fr.)
- furcata (Fr.)
- sanguinea (Fr.)
- rosacea (Fr.)
- sardonica (Fr.)
- depallens (Fr.)
- drimeia (Cooke)
- virescens (Fr.)
- lepida (Fr.)
- rubra (Fr.)
- Linnæi (Fr.)
- vesca (Fr.)
- cyanoxantha (Fr.)
- heterophylla (Fr.)
- consobrina (Fr.)
- foetens (Fr.)
- fellea (Fr.)
- Queletii (Fr.)
- emetica (Fr.)
- ochroleuca (Fr.)
- citrina (Gill)
- fragilis (Fr.)
- integra (Fr.)
- decolorans (Fr.)
- aurata (Fr.)
- veteriosa (Fr.)
- nitida (Fr.)
- clarioflava (Grove)
- alutacea (Fr.)
- lutea (Fr.)
- chamæleontina (Fr.)

Genus X. CANTHARELLUS (Adams)

Cantharellus cibarius (Fr.)

- aurantiacus (Fr.)

A HISTORY OF WARWICKSHIRE

Cantharellus tubæformis (Fr.)

— *infundibuliformis* (Fr.)

— *muscigenus* (Fr.)

— *lobatus* (Fr.)

Genus XI. *NYCTALIS* (Fr.)

Nyctalis asterophora (Fr.)

— *parasitica* (Fr.)

Genus XII. *MARASMIUS* (Fr.)

Marasmius urens (Fr.)

— *peronatus* (Fr.)

— *porreus* (Fr.)

— *oreades* (Fr.)

— *erythropus* (Fr.)

— *archyropus* (Fr.)

— *Vaillantii* (Fr.)

— *foetidus* (Fr.)

— *ramealis* (Fr.)

— *alliaceus* (Fr.)

— *rotula* (Fr.)

— *androsaceus* (Fr.)

— *epiphyllus* (Fr.)

— *saccharinus* (Fr.)

Genus XIII. *LENTINUS* (Fr.)

Lentinus tigrinus (Fr.)

— *lepideus* (Fr.)

— *adhærens* (Fr.)

— *cochleatus* (Fr.)

— *flabelliformis* (Fr.)

Genus XIV. *PANUS* (Fr.)

Panus conchatus (Fr.)

— *torulosus* (Fr.)

— *stypticus* (Fr.)

Genus XV. *SCHIZOPHYLLUM* (Fr.)

Schizophyllum commune (Fr.)

Genus XVI. *LENZITES* (Fr.)

Lenzites betulina (Fr.)

— *flaccida* (Fr.)

— *sepiaria* (Fr.)

Ord. II. *POLYPOREI*

Genus XVII. *BOLETUS* (Dill.)

Boletus luteus (Linn.)

— *elegans* (Schum.)

— *flavus* (With.)

— *granulatus* (Linn.)

— *bovinus* (Linn.)

— *badius* (Fr.)

— *sanguineus* (With.)

— *piperatus* (Bull.)

— *variegatus* (Sw.)

— *striæpes* (Secr.)

Boletus chrysenteron (Fr.)

— *subtomentosus* (Linn.)

— *rubinus* (Smith)

— *parasiticus* (Bull.)

— *varicolor* (B. et Br.)

— *calopus* (Fr.)

— *olivaceus* (Schæff.)

— *pachypus* (Fr.)

— *edulis* (Bull.)

— *fragrans* (Vitt.)

— *impolitus* (Fr.)

— *æstivalis* (Fr.)

— *Satanas* (Lenz.)

— *luridus* (Schæff.)

— *laricinus* (Berk.)

— *scaber* (Fr.)

— *felleus* (Bull.)

— *castaneus* (Bull.)

Genus XVIII. *FISTULINA* (Bull.)

Fistulina hepatica (Fr.)

Genus XIX. *POLYPORUS*

Polyporus leptcephalus (Fr.)

— *rufescens* (Fr.)

— *squamosus* (Fr.)

— *varius* (Fr.)

— *elegans* (Fr.)

— *lucidus* (Fr.)

— *intybaceus* (Fr.)

— *cristatus* (Fr.)

— *giganteus* (Fr.)

— *sulfureus* (Fr.)

— *heteroclitus* (Fr.)

— *salignus* (Fr.)

— *nidulans* (Fr.)

— *fumosus* (Fr.)

— *adustus* (Fr.)

— *adiposus* (B. et Br.)

— *hispidus* (Fr.)

— *cuticularis* (Fr.)

— *dryadeus* (Fr.)

— *betulinus* (Fr.)

— *applanatus* (Fr.)

— *fomentarius* (Fr.)

— *igniarius* (Fr.)

— *conchatus* (Fr.)

— *ribis* (Fr.)

— *ulmarius* (Fr.)

— *fraxineus* (Fr.)

— *annosus* (Fr.)

— *radiatus* (Fr.)

— *versicolor* (Fr.)

— *Wynnei* (B. et Br.)

— *ferruginosus* (Fr.)

— *medulla-panis* (Fr.)

— *vitreus* (Fr.)

— *obducens* (Pers.)

— *vulgaris* (Fr.)

BOTANY

- Polyporus molluscus (Fr.)
- sanguinolentus (Fr.)
- vaporarius (Fr.)
- Ptychogaster (Lud.)

Genus XX. TRAMETES (Fr.)

- Trametes Bulliardi (Fr.)
- suaveolens (Fr.)
- gibbosa (Fr.)
- serpens (Fr.)

Genus XXI. DÆDALEA (Fr.)

- Dædalea quercina (Pers.)
- confragosa (Pers.)
- unicolor (Fr.)

Genus XXII. MERULIUS (Fr.)

- Merulius corium (Fr.)
- lachrymans (Fr.)

Genus XXIII. SOLENIA (Hoffm.)

- Solenia anomala (Pers.)

Ord. III. HYDNEI

Genus XXIV. HYDNUM (Linn.)

- Hydnum repandum (Linn.)
- scrobiculatum (Fr.)
- auriscalpium (Fr.)
- coralloides (Scop.)
- membranaceum (Bull.)
- ferruginosum (Fr.)
- udum (Fr.)
- niveum (Pers.)
- farinaceum (Pers.)

Genus XXV. PHLEBIA (Fr.)

- Phlebia merismoides (Fr.)

Genus XXVI. GRANDINIA (Fr.)

- Grandinia granulosa (Fr.)

Ord. IV. THELEPHOREI

Genus XXVII. CRATERELLUS (Fr.)

- Craterellus lutescens (Fr.)
- cornucopioides (Fr.)

Genus XXVIII. THELEPHORA (Ehrh.)

- Thelephora anthocephala (Fr.)
- terrestris (Ehrh.)
- laciniata (Pers.)
- mollissima (Pers.)
- cristata (Fr.)

Genus XXIX. STEREUM (Fr.)

- Stereum purpureum (Fr.)
- hirsutum (Fr.)

- Stereum spadiceum (Fr.)
- sanguinolentum (Fr.)
- rubiginosum (Fr.)
- tabicinum (Fr.)
- rugosum (Fr.)

Genus XXX. AURICULARIA, Bull.

- Auricularia mesenterica (Fr.)

Genus XXXI. CORTICIUM (Fr.)

- Corticium evolvens (Fr.)
- giganteum (Fr.)
- læve (Fr.)
- sanguineum (Fr.)
- cæruleum (Fr.)
- quercinum (Fr.)
- cinereum (Fr.)
- incarnatum (Fr.)
- nudum (Fr.)
- corrugatum (Fr.)
- comedens (Fr.)
- puteanum (Fr.)
- aridum (Fr.)
- terrestre (Mass.)
- sambuci (Fr.)

Genus XXXII. CYPHELLA (Fr.)

- Cyphella capula (Fr.)
- Curreyi (B. et Br.)
- faginea (Lib.)
- villosa (Pers.)

Ord. V. CLAVARIEI

Genus XXXIII. CLAVARIA (Linn.)

- Clavaria fastigiata (Linn.)
- coralloides (Linn.)
- cinerea (Bull.)
- cristata (Pers.)
- rugosa (Bull.)
- Kunzei (Fr.)
- fusiformis (Sow.)
- inæqualis (Fl. Dan.)
- vermicularis (Scop.)
- fragilis (Holmsk.)
- pistillaris (Linn.)

Genus XXXIV. CALOCERA (Fr.)

- Calocera viscosa (Fr.)
- cornea (Fr.)

Genus XXXV. TYPHULA (Pers.)

- Typhula gyrans (Fr.)
- phacorrhiza (Fr.)

Genus XXXVI. PISTILLARIA (Fr.)

- Pistillaria micans (Fr.)
- quisquiliaris (Fr.)
- rosella (Fr.)

A HISTORY OF WARWICKSHIRE

Ord. VI. *TREMELLINEI*

Genus XXXVII. *TREMELLA* (Fr.)

- Tremella foliacea* (Pers.)
- *mesenterica* (Retz.)
- *albida* (Huds.)
- *moriformis* (*Eng. Bot.*)
- *tubercularia* (Berk.)
- *torta* (Berk.)

Genus XXXVIII. *EXIDIA* (Fr.)

- Exidia recisa* (Fr.)
- *glandulosa* (Fr.)

Genus XXXIX. *HIRNEOLA* (Fr.)

- Herneola Auricula-Judæ* (Berk.)

Genus XL. *DACRYMYCES* (N.)

- Dacrymyces deliquescens* (Dub.)
- *stillatus* (Nees.)

Genus XLI. *DITIOLA* (Fr.)

- Ditiola radicata* (Fr.)

ZOOLOGY

MOLLUSCS

Warwickshire is not a very suitable county for molluscan life since so much of its subsoil consists of sandstone. Nevertheless 93 species out of a possible 139 for the whole British Islands have been found; while one other form, *Physa heterostrophæ*, introduced from the United States, occurs near Birmingham.

The freshwater forms as might be expected show the higher percentage of occurrences.

The whole assemblage is typically British, extreme northern and western forms being absent, nor does *Pomatias elegans* occur.

A few more species may yet be discovered, notably among the *Vertigos*.

The literature on the subject is small and scattered, the three principal papers being: one on the neighbourhood of Birmingham by G. Sherriff Tye,¹ that on the Rugby district by E. E. Austen² and a list for Sutton Coldfield by A. Wood.³

A. GASTROPODA

I. PULMONATA

a. STYLOMMATOPHORA

Testacella maugei, Fér. }
— *haliotidea*, Drap. } Birmingham
— *scutulum*, Sby. }

Limax maximus, Linn.

— *flavus*, Linn. Birmingham; Whitchurch

— *arborum*, Bouch.-Chant. Near Knowle

Agriolimax agrestis (Linn.)

— *lævis* (Müll.). Sutton Coldfield

Amalia sowerbii (Fér.). Birmingham

— *gagates* (Drap.). Birmingham

Vitrea pellucida (Müll.)

Vitrea crystallina (Müll.). Rugby; Kenilworth; Warwick

— *alliarum* (Miller)

— *glabra* (Brit. Auct.). Sutton Coldfield; Edge Hill

— *cellaria* (Müll.)

— *nitidula* (Drap.)

— *pura* (Ald.)

— *radiatula* (Ald.). Birmingham

— *excavata* (Bean). Near Knowle

— *nitida* (Müll.). Witton

Vitrea fulva (Müll.). Solihull; Kenilworth

Arion ater (Linn.)

— *bortensis*, Fér.

— *circumscriptus*, John. } Solihull; Birmingham

— *intermedius*, Norm. }

— *subfuscus* (Drap.). Sutton Coldfield; Birmingham

Punctum pygmaeum (Drap.). Solihull; Knowle

Pyramidula rotundata (Müll.)

Helicella virgata (Da C.). Rugby; Temple Grafton; Whitchurch

— *itala* (Linn.). Rugby; Temple Grafton; Harbury

— *caperata* (Mont.). Solihull; near Alcester

— *cantiana* (Mont.). Henley-in-Arden

Hygromia fusca (Mont.). Near Knowle

— *hispidula* (Linn.)

— *rufescens* (Penn.)

Acanthinula aculeata (Müll.). Knowle; Solihull; Edge Hill

Vallonia pulchella (Müll.). Solihull; Rugby; Kenilworth; Whitchurch

Helicigona arbustorum (Linn.). Birmingham; Warwick

Helix aspersa, Müll.

¹ *Journal of Conchology*, vol. i. pp. 57, 68.

² *Report of the Rugby Natural History Society*, 1892 (1893) p. 16.

³ *List of Land and Freshwater Shells found at Sutton Coldfield*, 8vo (Leeds, 1897).

A HISTORY OF WARWICKSHIRE

Helix nemoralis, Linn.

— *bortensis*, Müll.

Buliminus obscurus (Müll.). Solihull; Kenilworth; Whitchurch

Cochlicopa lubrica (Müll.)

Azeca tridens (Pult.). Knowle; Birmingham; Sutton Coldfield; Kenilworth

Cæcilianella acicula (Müll.). Ettington

Pupa cylindracea (Da C.). Birmingham; Alcester; Kenilworth

— *muscorum* (Linn.). Warwick

Sphyradium edentulum (Drap.). Solihull; Warwick

Vertigo pygmæa (Drap.). Rugby; Knowle; Warwick

— *pusilla*, Müll. Solihull

Balea perversa (Linn.). Fenny Compton; Woodlows, Warwick

Clausilia bidentata (Ström.). Bearley; Solihull; Rugby; Kenilworth

— *rolphii*, Gray. Bearley

Succinea putris (Linn.)

b. BASOMMATOPHORA

Garychium minimum, Müll. Solihull; Rugby; Kenilworth; Warwick

Ancylus fluviatilis, Müll.

Velletia lacustris (Linn.). Sutton Coldfield; River Avon, Ashow; Warwick

Limnæa auricularia (Linn.)

— *pereger* (Müll.)

— *palustris* (Müll.)

— *truncatula* (Müll.)

— *stagnalis* (Linn.)

Planorbis corneus (Linn.)

— *albus*, Müll.

— *glaber*, Jeff. Sutton

— *nautilus* (Linn.)

— *carinatus*, Müll.

— *marginatus*, Drap.

— *vortex* (Linn.)

— *spirorbis*, Müll.

— *contortus* (Linn.)

— *fontanus* (Lightf.). Sutton Coldfield

Physa fontinalis (Linn.)

— *hypnorum* (Linn.). Birmingham; Kenilworth

II. PROSOBRANCHIATA

Bithynia tentaculata (Linn.)

— *leachii* (Shepp.). Plants' Brook, Minworth

Vivipara vivipara (Linn.). Birmingham; Rugby

Valvata piscinalis (Müll.)

— *cristata*, Müll. Canal at Warwick

Neritina fluviatilis (Linn.). River Tame, Aston; Rugby; River Avon, Kenilworth

B. PELECYPODA

Dreissensia polymorpha (Pall.). Birmingham; Rugby; Stratford Canal; Warwick

Unio pictorum (Linn.)

— *tumidus*, Retz. Birmingham; Whitchurch

Anodonta cygnæa (Linn.)

Sphærium rivicola (Leach). Rugby

— *corneum* (Linn.)

— *ovale* (Fér.). Canal near Olton, Birmingham

Sphærium lacustre (Müll.). Sutton Coldfield

Pisidium amnicum (Müll.)

— *pusillum* (Gmel.)

— *nitidum*, Jenyns

— *fontinale* (Drap.)

— *milius* (Held.). Sutton Coldfield; Hill Morton

INSECTS

It is a somewhat uninteresting task to attempt to give an account of the insects of Warwickshire as it is not a good entomological county and moreover has not been at all well worked, so that the list of species I am able to give as known to occur within its bounds is neither large nor interesting. Possibly an opportunity may occur later to publish a more complete list, and this one may be the means of inducing additional information to be forthcoming.

Warwickshire cannot boast any specially rare or interesting species such as *Leucodonta bicoloria*, Schiff., and *Epicnaptera ilicifolia*, Schiff., both of which are claimed by its neighbour Staffordshire; or *Xylomiges conspicularis*, L., which occurs in Worcestershire; nor does it include within its boundaries any known good collecting ground which would be likely to attract entomologists either from without or within the county, so that perhaps it is not to be wondered at that so few have worked there. Even the limited number of entomologists who happen to have lived within or near it have chiefly collected away from home, and have left little record of work done in their own county.

Situated as it is right in the middle of agricultural England it is not only remote from any sources of specialized forms such as inhabit the seacoast or mountains, but is so richly cultivated that there are no extensive wastes of any kind, either woodland, moorland or fen, to provide a varied fauna. The county is rich enough, it is very well wooded, and vegetation everywhere is luxuriant; but the woods though frequent are usually small, and the vegetation though rich is somewhat uniform in character, and consequently the insects though probably numerous as individuals are not so numerous and varied as species. Moreover while too uniform and 'commonplace' to show any specialized or characteristic forms such as occur for example in Scotland, it is also too remote from the continent to benefit by the constant accession of new or rare species from there, which probably accounts for the greater variety and interest of our south coast insect fauna. Even such strong fliers and wanderers as *Protoparce convolvuli*, L., and *Colias Edusa*, F., reach it but rarely.

The Forest of Arden, which once covered a large part of the county, now survives chiefly in place names, though round Marston Green, Coleshill, Hampton-in-Arden, etc., are still some woods and uncultivated land which probably remain directly from it and may retain some of its insect life. Probably the most interesting locality in the county is Sutton Park, a public and natural preserve of about 2,250 acres north of Birmingham and on the borders of the county. With its several sheets of

A HISTORY OF WARWICKSHIRE

water, its bogs, woods and common land it has always been an attractive spot for the naturalist, and being within easy reach of Birmingham has been well worked and will be found frequently quoted in the lists which follow. There are fine parks full of large trees, etc., at Stoneleigh, Warwick, Packington, etc., and the woods are scattered all over the county, most of the localities quoted in the lists—Knowle, Wolford, Brandon, Atherstone, etc.—being in the neighbourhood of some of the larger ones, though none are very large. The presence of Birmingham with its smoke and dirt and crowds of inhabitants pouring forth into the country on every holiday has doubtless had its effects on the flora and fauna of the north-western parts; on the one hand helping to reduce the number of species and on the other possibly modifying them, as the presence of dark forms of some species such as *Miana strigilis*, Cl., *Hybernia marginaria*, Bkh., *Gracilaria syringella*, F., etc., seems to prove. Possibly this may be the explanation of the occurrence of some species in the south which do not occur in the north of the county.

In the south-west is a portion of the county which is separated from the remainder by a narrow strip of Worcestershire. In this 'island' is situated Whitchurch, which is often quoted in the lists, and a portion of the parish is, I believe, in each county, so that the records from there are a little mixed. In some cases I have mentioned when specimens were taken in the Worcestershire strip; geographically however, though not politically, this strip of Worcestershire might well be included in Warwickshire, and there could be no harm in including its fauna in that of our county. In and around Birmingham too the border lines are rather irregular, and I have thought it neither necessary nor desirable to be too strict about including captures from doubtful spots. For instance, a long tongue of Worcestershire runs into Warwickshire just south of Birmingham. Situated in this strip are Yardley, Acocks Green, Moseley, etc., all of which will be found quoted in the lists; but as a walk of a quarter of a mile or little more would take one from either of these places into Warwickshire, and as moreover Warwickshire almost surrounds them, specimens recorded are as likely to have been taken in one county as in the other and are little likely to be restricted to one of them only.

There is not much to be written historically about the progress of entomology in Warwickshire. Few entomologists even of slight distinction have ever worked or lived in the county, and but little has ever been published on its insects. It was in this county that Weaver collected and was said to have taken *Argynnis dia*, L., and other wonderful species in the early half of last century; and there must have been other collectors in those early days as there are traditions of their captures of *Lycæna semiargus*, Rott., near Birmingham, etc., but I have been unable to learn anything about them or their work. It is not until we reach the 'sixties,' when Dr. R. C. R. Jordan, Messrs. W. G. Blatch and F. Enock began to collect, that anything definite is known, and not much then. Dr. Jordan was well known as a student of the

INSECTS

Lepidoptera, and published some important papers on the Pterophoridae, etc. His attention was chiefly directed to continental insects, and he appears to have done little work near home. A few notes by him, chiefly upon insects occurring at Edgbaston, are scattered through the early volumes of the *Entomologist's Monthly Magazine*. Mr. F. Enock, who at one time lived at Birmingham, published the first account of Warwickshire insects with which I am acquainted.¹ It however was a mere list of names, and as the area covered included a large part of Staffordshire and Worcestershire as well as Warwickshire, the right to an inclusion of any particular species in our list would be doubtful. No localities are indicated in any way, but it is probable that most of the species were taken at Knowle or Sutton. The list moreover was a compilation from lists supplied, I believe, by Mr. W. G. Blatch and others, and as no names are quoted it is impossible to judge of the value of any particular record or to fix credit or responsibility. There are certainly a number of undoubted errors, and I have quoted it with caution. Other records of Mr. Enock's have occurred from time to time in the pages of the magazines, and a few are quoted by E. Newman in his *British Butterflies*.

The late Mr. W. G. Blatch was undoubtedly one of the most distinguished entomologists in the midlands, and he was almost the only one who steadily worked the local fauna. He is best known as a coleopterist, in which capacity he did excellent work, introducing several species to the British list and making a good reputation for carefulness and exactness. His collections for the most part have passed into the hands of Mr. H. Willoughby Ellis, who is responsible for the list of Coleoptera in this work; he however made a special collection of midland Coleoptera, which was bought for Birmingham by Mr. G. H. Kenrick, and is now in the keeping of the Birmingham Entomological Society. In addition to Coleoptera however he made large collections of Lepidoptera and Hemiptera, and as most of his specimens are carefully labelled his collections have been drawn upon freely for purposes of this present list. He lived at Small Heath for many years and afterwards at Knowle, and both these localities will be frequently quoted. Many notes appeared from his pen in the *Entomologist's Monthly Magazine*, chiefly recording the capture of new or rare Coleoptera. In 1886 he furnished incomplete lists of the midland Coleoptera and Lepidoptera to the *Handbook to Birmingham*, prepared for the use of the British Association on the occasion of their meeting in Birmingham. This however, like Mr. F. Enock's list mentioned above, was to some extent a compilation, and authorities are never quoted. Localities are however given, and as most of it was the result of his own work it has formed the best account of our local insect fauna that we have had till now. Dr. Baly, the well known writer on exotic Coleoptera, was a Warwick man, but

¹ *Proceedings of the Birmingham Nat. Hist. and Micro. Soc. for 1869*, 'A List of the Lepidoptera captured within ten miles of Birmingham during the years 1867-9.' A supplement was published in the same series in the following year.

A HISTORY OF WARWICKSHIRE

did little if any local work. In 1867 the Rugby School Natural History Society commenced a series of annual reports, one of the features of which was a list of the Lepidoptera observed by the boys in and around Rugby during each year. This has been continued to date, and in recent years a few other orders have been dealt with, the Rev. F. D. Morice, who was resident at one time, contributing a list of Aculeate and other Hymenoptera. In my list of Lepidoptera these will be found frequently quoted, though I have done so with considerable hesitation, as after all they are for the most part only schoolboy records. The only other local publication dealing with Warwickshire entomology with which I am acquainted besides notes in the magazines is a short popular account of local Lepidoptera contributed by Mr. F. Enock to the *Saturday Half-Holiday Guide*, though several very excellent local lists have been published by neighbours at Burton-on-Trent, Leicester, etc., who however never passed our borders. In 1888 the Birmingham Entomological Society was founded, and it is largely owing to the work of its members that even this incomplete account of the local insects has been rendered possible. The society has never issued any publications, but the reports of their meetings have appeared regularly in the pages of the *Entomologist* and *Entomologist's Monthly Magazine* through the courtesy of their respective editors, and many of the records given below have been already mentioned in those reports. I have not however referred to these reports, as in every case I have had the records at first hand myself. The members of this society being chiefly residents of Birmingham or its neighbourhood, most of their records are from the few favourite collecting grounds in the immediate vicinity of that city; lists have however also been kindly supplied by a few scattered entomologists residing in other and remoter parts of the county—beyond a radius of ten or twelve miles from Birmingham.

In conclusion I have to thank the many kind friends who have assisted me and made this list possible, and must point out that any merits which it may perchance possess are entirely owing to their kind assistance. To Messrs. R. C. Bradley, H. Willoughby Ellis, and A. H. Martineau in particular my thanks are due for taking the responsibility of entire sections and for much assistance besides; to Messrs. P. W. Abbott, Austen, C. Baker, Dr. P. P. Baly, Revs. J. H. Bloom, W. Bree, Messrs. W. Kiss, L. C. Keighley-Peach, N. V. Sidgwick, W. C. E. Wheeler, G. W. Wynn and many others I am indebted for lists and much of the information quoted; to Messrs. C. E. M. Hawkesworth, G. H. Verrall and others for help of various kinds; and to Mr. Charles G. Barrett my thanks are specially due for much help and kind advice. Without his assistance in checking many of the records, in identifying many doubtful species, and in many other ways, the list of the Lepidoptera would have been of very small value, and any credit it deserves is due entirely to him.

INSECTS

ODONATA

The only portion of the Neuroptera to which any attention has been given is the Odonata, and they have only been collected casually, and chiefly by Mr. R. C. Bradley. It is true that W. Harcourt Bath collected here and wrote a *Handbook to the British Dragonflies*, but I think it is safer to ignore his work entirely. The following short list has been prepared for this work by Mr. Bradley. It must not be taken as complete, although I should not look for many more species in this county; some however are found in the neighbouring counties which may well occur in this. The nomenclature and order is according to Lucas' *British Dragonflies*.

Sympetrum striolatum, Charp. Sutton Cold-field (R. C. B.)	Calopteryx virgo, L. Sutton (R. C. B.)
Libellula depressa, L. Solihull (A. H. Martineau), Sutton (C. J. W., A. D. Imms)	— splendens, Harr. Stratford-on-Avon (A. H. Martineau)
Cordulegaster annulatus, Latr. Shirley (A. D. Imms)	Erythromma naia, Hansem. Sutton (R. C. B.)
Æschna juncea, L. Sutton (R. C. B.)	Pyrrosoma nymphula, Sulz. " "
— cyanea, Müll. " "	Ischnura elegans, Lind. " "
— grandis, L. Sutton, Coleshill (R. C. B.)	Agrion pulchellum, Lind. " "
	— puella, L. " "
	Enallagma cyathigerum, Charp. " "

HYMENOPTERA

Unfortunately this order has been little studied in Warwickshire, some sections not at all, and the small amount of work that has been done appears to have been confined to very limited areas. The following list therefore is far from complete, and from a perusal it is evident that many species are not recorded which undoubtedly must occur in the county but of which no records appear to exist.

It would be well perhaps to point out that the records to which Rev. F. D. Morice's name is attached are taken from a list made at Rugby regardless of county boundaries, and possibly therefore some may have actually occurred in Leicestershire.

The systems of classification followed are as follows: Aculeata, Mr. E. Saunders, 1896 list; Chrysididæ, Rev. F. D. Morice's Synopsis, *Entomologist's Monthly Magazine*, June, 1900; and the Sawflies are arranged according to Konow's views with synonyms in brackets which refer to Cameron's monograph.

The localities given without a name attached are my own.

HYMENOPTERA ACULEATA

HETEROGYNA

Formica rufa, Linn. Sutton (Bradley), Hay Wood, Knowle
— fusca, Ltr. Generally common
Lasius fuliginosus, Ltr. Sutton (Bradley), Solihull
— umbratus. Harborne (Harrison)

Lasius flavus, De Geer. Generally common in fields
— niger, Linn. Generally common
Plagiolepis flavidula, Rog. Edgbaston Botanical Gardens; evidently imported
Ponera contracta, Latr. Sutton (Bradley)
Formicoxenus nitidulus, Nyl. Knowle (Ellis)

A HISTORY OF WARWICKSHIRE

Myrmica rubra, Linn.
 race *lævinodis*. *Rugby* (Morice)
 „ *ruginodis*. „ „
 „ *scabrinodis*. *Sutton* (Blatch)
Solenopsis fugax, Latr. *Knowle* (Ellis)
Monomorium pharonis, Linn. *Birmingham* ;
 common in houses

FOSSORES

Myrmosa melanocephala, Fab. *Sutton* (Bradley), *Rugby* (Morice)
Tiphia minuta, V. de Lind. *Rugby* (Morice)
Sapyga quinque-punctata, Fab. *Solibull*,
Knowle (Blatch)
 — *clavicornis*, Linn. *Solibull*, *Fillongley*
Pompilus niger, Fab. *Sutton* (Bradley)
 — *spissus*, Schiödde. *Sutton* (Bradley),
Knowle
 — *gibbus*, Fab. Common in sandy localities
 — *ungicularis*, Thoms. *Rugby* (Morice)
 — *pectinipes*, V. de Lind. „ „
Salix fuscus, Linn. *Whitchurch* (Bloom),
Rugby (Morice), *Solibull*, etc.
 — *notatulus*, Saund. *Sutton* (Bradley)
 — *parvulus*, Dahlb. „ „
Tachytes pectinipes, Linn. *Kenilworth*,
Coleshill
Trypoxylon figulus, Linn. *Sutton*, *Knowle*,
Rugby, etc. ; generally common about
 palings, etc.
 — *clavicerum*, Lep. *Rugby* (Morice), *Solibull*,
Kenilworth
 — *attenuatum*, Smith. *Sutton* (Bradley)
Spilomena troglodytes, V. de Lind. *Rugby*
 (Morice), *Solibull*
Stigmus solskyi, Moraw. *Sutton* (Bradley),
Rugby (Morice), *Solibull*
Pemphredon lugubris, Latr. Generally com-
 mon in rotten palings, stumps, etc.
 — *shuckardi*, Moraw. *Rugby* (Morice)
 — *lethifer*, Shuck. *Sutton*, *Solibull*, *Rugby*,
 etc.
Diodontus minutus, Fab. *Rugby* (Morice)
 — *tristis*, V. de Lind. *Sutton* (Bradley),
Rugby (Morice), *Solibull*
Passalæcus corniger, Shuck. *Rugby* (Morice),
Solibull
 — *insignis*, V. de Lind. *Rugby* (Morice),
Solibull
 — *gracilis*, Curt. *Rugby* (Morice), *Solibull*
 — *monilicornis*, Dlb. *Rugby* (Morice),
Sutton (Bradley), *Solibull*
Mimesa bicolor, Fab. *Sutton* (Bradley), *Solibull*,
Coleshill
Psen pallipes, Panz. *Rugby* (Morice), *Sutton*
 (Bradley), *Solibull*, *Coleshill*
Gorytes mystaceus, Linn. *Knowle*, *Rugby*,
Sutton, etc.
 — *quadrifasciatus*, Fab. *Rugby* (Morice)

Nysson spinosus, Fab. *Rugby* (Morice), *Sutton*
 (Bradley), *Solibull*
 — *trimaculatus*, Rossi. *Rugby* (Morice)
Mellinus arvensis, Linn. *Packington* (Blatch),
Rugby (Morice)
Oxybelus uniglumis, Linn. *Knowle*, *Sutton*,
Kenilworth, *Rugby*, etc.
Crabro tibialis, Fab. *Sutton* (Bradley), *Solibull*
 — *clavipes*, Linn. *Sutton* (Bradley), *Rugby*
 (Morice), *Solibull*
 — *leucostomus*, Linn. *Sutton*, *Knowle*, *Rugby*,
 etc. ; generally common in wood
 stumps, etc.
 — *pubescens*, Shuck. *Sutton* (Bradley)
 — *capitosus*, Shuck. *Rugby* (Morice)
 — *podagricus*, V. de Lind. „ „
 — *palmipes*, Linn. Generally common
 — *varius*, Lep. *Sutton* (Bradley), *Rugby*
 (Morice), *Solibull*
 — *anxius*, Wesm. *Sutton* (Bradley), *Solibull*
 — *wesmæli*, V. de Lind. *Rugby* (Morice)
 — *elongatulus*, V. de Lind. *Knowle*, *Sutton*,
Rugby, etc.
 — *quadrimaculatus*, Dlb. *Rugby* (Morice),
Solibull, *Coleshill*
 — *dimidiatus*, Fab. *Sutton* (Bradley), *Knowle*
 (Blatch), *Solibull*
 — *vagabundus*, Panz. *Knowle* (Blatch),
Rugby (Morice)
 — *cephalotes*, Panz. *Hampton-in-Arden*
 (Blatch), *Rugby* (Morice)
 — *chrysostomus*, Lep. Generally common
 — *vagus*, Linn. *Sutton* (Bradley), *Solibull*
 — *cribrarius*, Linn. *Sutton* (Bradley), *Coleshill*
 (Blatch)
 — *peltarius*, Schreb. *Sutton* (Bradley), *Rugby*
 (Morice), *Coleshill*
 — *interruptus*, De Geer. *Sutton* (Bradley),
Solibull, *Middleton*
 — *albilabris*, Fab. *Rugby* (Morice), *Kenilworth*
Entomognathus brevis, V. de Lind. *Rugby*
 (Morice)

DIPLOPTERA

Vespa crabro, Linn. *Salford Priors* (Blatch),
Studley
 — *vulgaris*, Linn. Generally common
 — *germanica*, Fab. „ „
 — *rufa*, Linn. *Sutton*, *Rugby*, *Solibull*
 — *sylvestris*, Scop. *Sutton*, *Solibull*, *Astley*,
Rugby, etc.
 — *norvegica*, Fab. *Sutton* (Bradley), *Rugby*
 (Morice), *Solibull*
Odynerus spinipes, Linn. *Sutton* (Bradley),
Knowle (Blatch), *Rugby* (Morice)
 — *lævipes*, Shuck. *Knowle*
 — *callosus*, Thoms. *Sutton*, *Knowle*, *Solibull*,
Rugby

INSECTS

Odynerus parietum, Linn. *Sutton* (Bradley);
Rugby (Morice), *Solihull*, etc.

- *pictus*, Curt. *Rugby*, *Solihull*, *Sutton*
- *trimarginatus*, Ztt. *Sutton* (Bradley)
- *trifasciatus*, Oliv. *Sutton*, *Knowle*, *Rugby*, etc.
- *parietinus*, Linn. *Sutton*, *Knowle* (Blatch), *Rugby* (Morice)
- *antiliope*, Panz. *Rugby* (Morice)
- *sinuatus*, Fab. *Sutton* (Bradley)

ANTHOPHILA

Colletes succincta, Linn. *Sutton* (Bradley),
Solihull

- *daviesana*, Smith. *Solihull*, *Kenilworth*, *Rugby*

Prosopis communis, Nyl. *Sutton*, *Knowle*,
Rugby, *Solihull*

- *signata*, Panz. *Rugby* (Morice)
- *hyalinata*, Sm. *Sutton* (Bradley), *Rugby* (Morice)

Sphecodes gibbus, Linn. *Sutton* (Bradley),
Rugby (Morice)

- *subquadratus*, Sm. *Sutton* (Bradley), *Rugby* (Morice)

- *pilirrons*, Thoms. *Sutton*, *Knowle*, *Rugby*, etc.

- *similis*, Wesm. *Sutton* (Bradley), *Rugby* (Morice)

- *rerruginatus*, Sch. *Rugby* (Morice)

- *variegatus*, V. Hag. " "

- *dimidiatus*, V. Hag. " "

- *affinis*, V. Hag. *Sutton*, *Solihull*, *Kenilworth*, *Rugby*

Halictus rubicundus, Christ. Common in
most localities

- *leucozonius*, Schk. *Rugby* (Morice)

- *laevigatus*, Kirb. *Sutton* (Bradley)

- *cylindricus*, Fab. Common in most
localities

- *albipes*, Kirb. *Sutton*, *Rugby*, *Solihull*, and
many other localities

- *subfasciatus*, Nyl. *Sutton* (Bradley), *Rugby* (Morice)

- *villosulus*, Kirb. Common in most localities

- *nitidusculus*, Kirb. *Sutton* (Bradley),
Solihull, *Rugby* (Morice)

- *atricornis*, Sm. *Sutton* (Bradley), *Rugby* (Morice), *Solihull*

- *minutissimus*, Kirb. *Rugby* (Morice)

- *tumulorum*, Linn. *Sutton* (Bradley),
Knowle

- *smeathmanellus*, Kirb. *Rugby* (Morice)

- *leucopus*, Kirb. *Sutton* (Bradley), *Rugby* (Morice)

Andrena albicans, Kirb. Common throughout
the county

- *rosæ* (var. *trimmerana*). Common in
most localities

Andrena cineraria, Linn. *Sutton* (Bradley),
Solihull, *Middleton*

- *fulva*, Schr. Common in most localities

- *clarkella*, Kirby. Common in many
localities

- *nigroænea*, Kirby. Generally common

- *gwynana*, Kirb. *Rugby* (Morice), *Knowle*,
Salford Priors (Wainwright)

- var. *bicolor*. *Rugby* (Morice)

- *angustior*, Kirb. *Sutton* (Bradley), *Rugby* (Morice), *Fillongley*, *Solihull*

- *varians*, Rossi. *Sutton* (Bradley), *Knowle* (Blatch)

- *helvola*, Linn. *Rugby* (Morice), *Sutton* (Bradley)

- *fucata*, Smith. *Rugby* (Morice), *Sutton*

- *fuscipes*, Kirby. *Sutton* (Bradley), *Coleshill*

- *cingulata*, Fab. *Rugby* (Morice)

- *albicus*, Kirby. Generally common

- *chrysosceles*, Kirby. *Rugby* (Morice), *Kingswood*

- *analis*, Panz. *Sutton* (Bradley), *Rugby* (Morice)

- *coitana*, Kirby. *Sutton* (Bradley), *Rugby* (Morice), *Solihull*

- *humilis*, Im. *Sutton* (Bradley), *Solihull*

- *labialis*, Kirby. *Solihull*, *Fillongley*

- *minutula*, Kirby. *Rugby* (Morice), *Solihull*

- " *parvula*. *Rugby* (Morice)

- *nana*, Kirby. *Rugby* (Morice), *Solihull*

- *similis*, Sm. *Fillongley*

- *wilkella*, Kirby. *Knowle* (Blatch), *Rugby* (Morice), *Solihull*, *Coleshill*

Nomada obtusifrons, Nyl. *Rugby* (Morice)

- *succincta*, Panz. *Rugby* (Morice), *Solihull*

- *alternata*, Kirby. Common generally

- *lathburiana*, Kirby. *Solihull*

- *ruficornis*, L. Common generally

- *bifida*, Thoms. *Sutton* (Bradley), *Rugby* (Morice), *Hatton*

- *borealis*, Ztt. *Sutton* (Bradley), *Rugby* (Morice), *Knowle* (Wainwright)

- *ochrostoma*, Kirby. *Sutton* (Bradley),
Rugby (Morice), *Solihull*

- *ferruginata*, Kirby. *Sutton* (Bradley)

- *fabriciana*, L. Common generally

- *flavoguttata*, Kirby. *Rugby* (Morice), *Solihull*

Chelostoma florisomne, Lin. *Rugby* (Morice),
Solihull, *Fillongley*

- *campanularum*, Kirby. *Rugby* (Morice),
Solihull

Coelioxys elongata, Lep. *Sutton* (Bradley),
Kenilworth

Megachile willughbiella, Kirby. *Sutton* (Bradley),
Rugby (Morice), *Coleshill*, etc.

- *circumcincta*, Lep. *Rugby* (Morice), *Solihull*

- *ligniseca*, K. *Sutton* (Bradley)

A HISTORY OF WARWICKSHIRE

- Megachile centuncularis*, L. *Knowle* (Blatch), *Rugby* (Morice), *Sutton* (Bradley)
Osmia rufa, Lin. Common generally
 — *cærulescens*, L. *Rugby* (Morice), *Sutton*, *Solihull*
 — *fulviventris*, Panz. *Solihull*
 — *leucomelana*, Kirb. *Rugby* (Morice)
Anthidium manicatum, Linn. *Sutton* (Bradley), *Rugby* (Morice)
Melecta armata, Panz. *Rugby* (Morice)
Anthophora pilipes, Fab. *Sutton* (Bradley), *Rugby* (Morice), *Solihull*
 — *furcata*, Panz. *Sutton* (Bradley), *Rugby* (Morice), *Solihull*
Psithyrus rupestris, Fab. *Sutton* (Bradley), *Rugby* (Morice)
 — *vestalis*, Fourc. *Sutton* (Bradley), *Knowle* (Blatch), *Rugby* (Morice)
 — *barbutellus*, Kirb. *Sutton* (Bradley), *Knowle* (Blatch), *Rugby* (Morice)
 — *campestris*, Panz. *Sutton* (Bradley), *Rugby* (Morice)
 — *quadricolor*, Lep. *Sutton* (Bradley), *Rugby* (Morice), *Solihull*
Bombus venustus, Sm. *Sutton* (Bradley), *Rugby* (Morice)
 — *agrorum*, Fab. Common generally
 — *hortorum*, Lin. *Rugby* (Morice), *Solihull*, *Knowle*, etc.
 — *hortorum* var. *harrisellus*. *Rugby* (Morice), *Solihull*, *Coleshill*
 — *latreillellus*, Kirb. *Sutton* (Bradley), *Rugby* (Morice)
 — *latreillellus* var. *distinguendus*. *Rugby* (Morice)
 — *sylvorum*, Lin. *Rugby* (Morice), *Solihull*, *Coleshill*
 — *derhamellus*, Kirb. *Sutton* (Bradley), *Rugby* (Morice), *Solihull*
 — *lapidarius*, Linn. Common everywhere
 — *jonellus*, Kirb. *Sutton* (Bradley), *Rugby* (Morice)
 — *pratorum*, Lin. *Sutton* (Bradley), *Rugby* (Morice), etc., etc.
 — *cullumanus*, Kirb. *Sutton* (Bradley)
 — *soroënsis*, Fab. *Rugby* (Morice)
 — *terrestris*, Linn. Common generally
 „ var. *virginalis*. *Rugby* (Morice)
Apis mellifica, Lin. Common, but the indigenous type is rare

HYMENOPTERA TUBULIFERA

CHRYSIDIDÆ

- Cleptes pallipes*, Lep. *Rugby* (Morice), *Solihull*
Ellampus auratus, Lin. *Rugby* (Morice)
Chrysis pustulosa, Ab. *Solihull*
 — *cyanea*, Lin. *Rugby* (Morice), *Solihull*
 — *viridula*, Lin. „ „ „
Chrysis neglecta, Shuck. *Rugby* (Morice), *Solihull*
 — *ignita*, Lin. Generally common
 SAWFLIES
 (All these were taken at or near Rugby by the Rev. F. D. Morice)
Pamphilus inanitus, Vill.
 — *sylvaticus*, Linn.
Cimbex femorata, Lin.
Trichiosoma tibialis (= *crategi*)
Hylotoma ustulata, Lin.
 — *cyanocrocea*
Cladius pectinicornis, Fourc.
 — *padi*, Linn.
 — *drewseni*, Thoms.
Dineura stilata, Kl.
Pontania leucuspis (= *leucostigma*)
Pteronotus leucotrochus
 — *ribesii*
Holcocneme lucida
Pachynematus capreæ, Panz.
 — *obductus*, Htg.
 — *albipennis*, Htg.
Pristiphora pallipes (= *appendiculata*)
 — *ruficornis*
Phyllotoma aceris
Eriocampoides annulipes
 — *æthiops* (= *rosæ*)
Tomostethus dubius (= *ephippium*)
 — *lutiventris* (= *fuscipennis*)
Blennocampa affinis (= *assimilis*)
 — *pusilla*, Klug.
 — *subcana*, Zad.
 — *tenuicornis* (= *alchemillæ*, Cam.)
Monophadnus albipes, Schr.
Attralia glabricollis, Thoms.
 — *lineolata* (= *rosæ*)
Selandria serva
 — *stramineipes* var. *analis*
Strombocerus delicatulus
Pœcilosoma klugi
 — *tridens*
 — sp (?) probably *hungarica*, Knw.
Emphytus cinctus, Klug.
 — *togatus* (F. nec, Cam. = *cingulatus*, Cam.)
 — *glossulariæ*, Klug.
Taxonus glabratus, Fall.
 — *equiseti*, Fall.
 — *agrorum*, Fall.
Dolerus pratensis, Fall. (= *fulviventris*, Scop.)
 — *æriceps*
 — *gonager*, Klug.
 — *picipes* (= *leucopterus*)
 — *nigratus* (= *fissus*, Htg.)
 — *coruscans* (= *possilensis*)
 — *hæmatodis*, Schr.
 — *æneus*, Htg.
 „ var. *elongatulus*, Thoms.

INSECTS

<i>Loderus palmatus</i>	<i>Pachyprotasis rapæ</i>
— <i>vestigralis</i>	<i>Macrophya ribis</i>
<i>Rhogogastera</i> (= part of <i>Tenthredo</i> , Cam.)	— <i>punctum album</i> , Lin.
— <i>viridis</i> , Lin.	— <i>annulata</i> (= <i>neglecta</i>)
— <i>punctulata</i> , Klug.	<i>Allantus temulus</i> (= <i>T. bicincta</i> , Cam.)
— <i>fulvipes</i> (= <i>lateralis</i> , Fab.)	— <i>scrophulariæ</i> , Lin.
— <i>aucupariæ</i> (= <i>gibbosa</i> , Fall.)	— <i>vespa</i> (= <i>tricinctus</i> , F.)
<i>Tenthredopsis litterata</i>	— <i>arcuatus</i> , Forst.
— <i>tiliæ</i>	<i>Tenthredo atra</i> , Lin.
— <i>dorsalis</i>	— <i>livida</i> , Lin.
— <i>campestris</i> (= <i>scutellaris</i>)	— <i>mesomelana</i> , Lin.

COLEOPTERA

In preparing a list of Warwickshire Coleoptera it becomes at once apparent that a large number of species frequently met with in the neighbourhood cannot be included, as the records in many cases refer to localities outside the county boundary.

This boundary being an artificial one, and not defined by any natural features of the country, can have no bearing whatever on the occurrence or distribution of the fauna of the district. Some years ago one of our leading geologists sketched out a midland area defined by the geological formation of the country, which he called 'The Midland Plateau'; and to do justice to the distribution of the fauna of the district the whole of this plateau should be included. The present work however deals with Warwickshire, and although the limits of the country are purely political, the actual tract of the country included therein can only be considered in compiling the present list.

A large number of species must therefore be excluded which inhabit the adjacent counties and which, up to the present time, have not been recorded as occurring within our borders, and amongst them are many insects deserving special notice. A few species may perhaps be mentioned :—

Carabus nitens and *C. arvensis* may be taken on Cannock Chase, both species being now very scarce. The curious *Nebria livida* may also be taken in the same locality. This beetle was first discovered on the Chase by Mr. J. T. Harris, and the late Mr. Blatch and also the author have verified its occurrence on many subsequent occasions. This is the only known instance of this species inhabiting an inland locality, its headquarters being at Bridlington Quay and a few other parts of the north-east coast. It lives in argillaceous cliffs, and on Cannock Chase it is met with in a similar formation. *Dischirius æneus* occurs at Cannock Chase and Bewdley, and many species of *Bembidium* occur in the adjacent country which cannot be included in our list. *Patrobis assimilis*, *Trechus rubens*, *Pterostichus lepidus*, *Amara patricia* all occur on Cannock Chase, and *A. spinipes* at Dudley and Bewdley. *Miscodera arctica* can be taken in plenty in some seasons on Cannock Chase, and in the same locality *Harpalus griseus* and *Anisodactylus binotatus* occur sparingly. *Hydroporus septentrionalis* (Bewdley) and several other

A HISTORY OF WARWICKSHIRE

species of water beetles occur in the adjoining counties which have not yet been recorded from Warwickshire.

Of the *Brachelytra* a large number of species occur at Cannock Chase, Bewdley, Sherwood Forest, Church Stretton, Trench Woods and Budden Woods which have not been found in our county, and of the other sections the following insects may perhaps be mentioned : *Triplax russica* and *ænea*, *Teredus nitiaus*, *Gnathonus rotundatus*, *Plagaderus dissectus*, *Thymalus limbatus*, *Anthrophagus nigricornis*, *Byrrhus fasciatus* and *dorsalis*, *Georyssus pygmaeus*, *Macronychus quadrituberculatus*, *Trox sabulosus*, *Elater coccineus* and *pomorum*, *Athous rhombeus*, *Clytus mysticus*, *Pachyta collaris* and *octomaculata*, *Strangalia quadridiata* and *nigra*, *Melasoma æneum*, *Tropideres sepicola*, *Apion filirostre*, and some hundreds of others which cannot be referred to.

Warwickshire has however produced a fairly large number of species when compared to other counties. It has been said that the midlands are not productive of a large and varied insect fauna, and that in the British Isles the further west investigations are made the less insect life appears to thrive. While to a certain extent this may be true, it is nevertheless a fact that the more a district is worked the more species does it reveal.

It is of course impossible to make a county list of Coleoptera complete, as at any time further species may be found in the district. The Rev. J. H. Bloom of Whitchurch Rectory in the space of a few months last year added several species to our county fauna by collecting in the neighbourhood of Stratford-on-Avon.

Mention has been made of some of the more remarkable beetles which occur in the immediate neighbourhood, but which have not been recorded from the county, and the following remarks regarding the families and more notable species which have appeared within our limits may be interesting.

Of the *Geodephaga*, which embraces 310 British species, we find 138 occurring in Warwickshire. The beautiful species *Cicindela campestris*, which is very active and voracious, is extremely abundant at certain seasons, and the elegant beetle *Cybrus rostratus* is occasionally taken throughout the district. Five species of *Carabus*, four of *Notiophilus* and four of *Leistus* occur.

Elaphrus riparius and *E. cupreus*, both very beautiful insects, may sometimes be taken in the utmost profusion on mud flats near streams and ponds. *Clivina collaris*, *Badister sodalis*, *Chlœnius vestitus*, *C. nigricornis* and *Oodes helopioides* occur but sparingly in a few localities.

The genera *Harpalus* and *Pterostichus* are fairly well represented, and the commoner species of *Amara* are numerous. The rarer ones, *A. ovata*, *A. acuminata* and *A. nitiaa*, occur in certain localities.

Taphria nivalis has turned up occasionally at Knowle. Fifteen species of the genus *Anchomenus* occur, amongst which may be mentioned *A. marginatus*, which is common locally ; *A. gracilis*, *A. thoreyi* and *A. puellus*.

INSECTS

Of the *Bembian* twenty-two species occur, including *B. quinquestriatum*, *B. æneum*, *B. articulatum* and *B. affine*.

The late Mr. Blatch's belief that he took *B. adustum* within the Warwickshire borders is probably correct, as he found this insect in the utmost profusion on the banks of the river Severn in a similar locality to which he refers his Warwickshire record.

The beautiful *Lebia chlorocephala* has lately been added to our list ; it has however been previously taken a few miles beyond the county boundary. Seven species of *Dromius* occur, the rarest of which is *D. quadrisignatus*.

The small but very active *Blechnus maurus* was found by Mr. Blatch at Leamington, the usual limits of this beetle being in the southern counties and generally on or near the sea-coast. All the species of *Metabletus* occur.

The *Hydradephaga* are represented by sixty-three species. *Brychius elevatus* occurs plentifully between Solihull and the adjacent village of Knowle, and of the genus *Haliphus* nine species have been taken within our borders, some very plentifully ; but the species *H. confinis*, *H. fulvus*, *H. cinereus* and *H. striatus* are rare. *Pelobius tardus* has only occurred in two localities, but could in all probability be obtained in several places by systematic working.

The *Hydropori* are represented by sixteen species, of which *H. umbrosus* and *H. angustatus* are very rare, most of the other species being abundant.

Of the species of *Agabus* some are extremely plentiful, the rarer ones being *A. guttatus*, *A. affinis*, *A. unguicularis*, *A. didymus* and *A. sturmi*. Amongst the other genera the following are the rarer species : *Copelatus agilis*, *Rhantus exoletus*, *Dytiscus punctulatus* and *Gyrinus opacus*.

The *Hydrophilidæ* are represented in the county by fifty-four species, a large proportion of which have been taken in the vicinity of Knowle, although the scarcity of recorded localities is probably accounted for by the fact that very little work amongst the water beetles has been done outside this district. The following are the more important species : *Hydrobius picicrus*, *Philbydrus nigricornis*, *Holochares lividus*, *Laccobius alutaceus*, *L. minutes*, *L. bipunctatus*, *Limnebius picinus*, *Helophorus dorsalis*, *Ochthebius poweri*, *O. rufomarginatus*, *Hydræna augustata* (usually considered a more northerly insect) and *H. pulchella*.

The *Brachelytra*, consisting of 777 British species, are represented in Warwickshire by 480. A large proportion of the insects in this section are small and extremely difficult to identify, due to the great similarity existing between them, and it is owing to the large amount of work which the late Mr. Blatch bestowed upon this naturally isolated group that we can include so many species in our list.

Many insects of this group are myrmecophilous, and good opportunities are afforded of studying the ants' nests in the well wooded country in the vicinity of Knowle, which district forms part of the ancient Forest of Arden. The particulars of each species have been

A HISTORY OF WARWICKSHIRE

given as fully as possible in the list, and a few only of the more remarkable ones need be mentioned here, namely : *Aleochara ruficornis* and *A. succicola*, *Oxypoda pectita*, *O. lentula*, *O. spectabilis*, *O. mutata*, *Thyasophila angulata*, *Ocyusa maura*, *Plæopora corticalis*, *Calodera nigrita* and *Myrmedonia humeralis*.

Of the large genus *Homalota* the species and varieties occurring in our county are 100 in number, being about two-thirds of those included in the British list. Of the other species in the tribe *Aleocharina* may be mentioned *Silusa rubigenosa*, *Bolitochara bella*, *Oligota punctulata*, *Myllæna dubia* and *Gymnusa brevicollis*, all of which are scarce.

The tribe *Tachiporina* is well represented, and *Tachinus pallipes*, a species new to the county, has recently been found near Stratford-on-Avon.

The tribe *Staphylinina*, which includes the larger members of the *Brachelytra*, is fairly well represented, the county yielding twenty species of *Quedius* and five of *Staphylinus*, all of which latter are rare, especially *S. latibricola*, which is found in ants' nests (*Myrmica*).

The large genus *Philonthus* has thirty-two Warwickshire species, of which *P. intermedius*, *P. carbonarius*, *P. lucens*, *P. umbratilis* and *P. thermarum* are the rarest. *Xantholinus fulgidus* is a rare insect in the district, and in the *Pæderina* the same remarks apply to *Lathrobium punctatum*, *L. quadratum*, *Achenium humile* and *Stilicus similis*.

The majority of the species of *Stenus* are very abundant, *S. melanopus*, *S. canaliculatus*, *S. circularis* and *S. ærosus* being the rarer ones. In the remaining genera, *Trogophlæus arcuatus* and *Homalium riparium* and *brevicorne* may be mentioned as being occasionally met with in the district.

The *Clavicornia* are represented by 360 species. The genus *Euplectus* was most carefully studied by Mr. Blatch, who was the author of some very useful notes upon it (*E. M. M.* xxii. 203). The genus *Choleva* is well represented, but *Colons* are few in species and numbers.

The *Trichopterigidæ* occur freely, and many species literally swarm in some localities. The species are extremely difficult to determine, and there is no doubt that when more time is bestowed upon them several species new to the county will be recorded.

Sacium pusillum, one specimen of which was taken at Knowle, is probably the only British specimen in existence.

The genus *Meligethes* has received very little attention in this district, and there is little doubt that many more species would turn up if carefully worked for.

Of the *Cryptophagidæ* the two largest genera, *Cryptophagus* and *Atomaria*, are well represented and yield many interesting species.

Of the *Lamellicornia* just one half of the British species occur, of which the *Lucanidæ* have three representatives in the county, a fine male specimen of *Lucanus cervus* having been taken by Mr. A. H. Martineau at Warwick on July 4, 1887. This is apparently the only specimen of this beetle taken in the county, although in Wyre Forest, Worcestershire, it is not uncommon.

INSECTS

The genus *Aphodius* is well represented in Warwickshire by twenty-seven and *Ontophagus* by three species, of which *O. vacca* has recently been added to the list.

Trox sabulosus has occurred sparingly, and also the beautifully coloured *Cetonia aurata*.

The *Sternoxi* number thirty-seven species, many of which are extremely abundant—the rarer ones being *Elater balteatus*, *Melanotus rufipes* var. *castanipes* and *Corymbetes æneus*.

The *Malacoderma* are represented by fifty-two species, most of them being very plentiful, the scarcer ones being *Telephorus oralis*, *T. thoracicus*, *Malthinus frontalis* and *Melacbius viridis*.

The genus *Malthodes* yields eight species, all of which are uncommon, and the same remarks apply to *Tillus elongatus* and *Opilo mollis*.

The *Teredilia* have only twenty-eight species in the county. *Niptus crenatus* used to be taken freely in an old cowshed amongst manger refuse, but unfortunately, after a lapse of many years, this productive shed was cleaned out, and the old home of *Niptus* has been practically broken up.

The genus *Cis* is represented by ten species. *Ptinus subpilosus* occurs in rotten wood, and *Dryophilus pusillus* may be taken plentifully on fir trees in the summer at Hay Woods near Knowle.

The *Longicornia* number nineteen species only, but this may possibly be increased when other portions of the county are more thoroughly explored.

Prionus coriarius occurs occasionally, this fine insect having been taken in several localities in the county. *Aromia moschata*, *Callidium alni*, *Clytus mysticus* and *Tetrops præusta* occur sparingly. All the other species in the list are fairly common.

The *Phytophaga* (with *Bruchidæ*) have 132 representatives in the county.

The genus *Longitarsus* is much in evidence, but owing to the extreme difficulty in separating the species it is impossible to vouch for the accuracy of all the records, and much further research is needed.

The *Heteromera* (with abnormal *Coleoptera*) number forty-two species, and include some interesting insects. The genus *Anaspis* has perhaps received the least attention, all the *Mordellidæ* being more or less difficult to preserve owing to the antennæ and legs being so loosely articulated, and more species may be expected to occur than are enumerated in the list.

The *Rhyncophora* (with *Anthribidæ*) have 217 representatives, many of which are rare, and species new to the county are being discovered year by year. One example may be mentioned in *Rhytidosomes globulus*, which was found by the late Mr. Blatch and the author in the year 1898 in a spot which had been worked by Mr. Blatch more or less regularly for at least twenty years without having taken the insect before. Numerous examples of this kind might be mentioned, and in the future

A HISTORY OF WARWICKSHIRE

it is hoped that our list may be enhanced by the addition of many other species which most certainly inhabit the county unobserved.

For purposes of comparison a table is given showing the total number of known British species and also the number which have been found in Warwickshire :—

Cox's groups	Britain, 1897	Warwickshire, 1902
Geodephaga	310	135
Hydradephaga	130	63
Palpicornia	95	54
Brachelytra	777	480
Clavicornia	681	360
Lamellicornia	90	45
Sternoxi	76	37
Malacoderma	91	52
Teredilia	57	28
Longicornia	57	19
Phytophaga (with Bruchidæ)	256	131
Heteromera (with abnormal Coleoptera)	118	42
Rhyncophora (with Anthribidæ)	526	217
Total . .	3264	1663

In compiling the following list of Warwickshire Coleoptera it has been thought that a few particulars as to the habits and times of appearance of the insects might be of interest to entomologists, and a brief note has therefore been given with each species.

In the case of species which occur commonly throughout the district it has not been considered necessary to detail every record, therefore a note as to general habitat and distribution has been given. Where no authority is given for a record the insect has in every instance been taken in that locality by the author. In all the other cases the authority is given after the localities.

The entomologists mentioned in the following list are as follow : W. G. Blatch, F.E.S. (ob. 1900) ; Rev. J. H. Bloom, M.A., Whitchurch Rectory ; A. H. Martineau, F.E.S., Solihull ; F. A. Jackson, A.I.E.E., Tonbridge ; A. J. Chitty, M.A., F.E.S. ; the late J. A. Power, M.D. The nomenclature adopted is that of the *Catalogue of British Coleoptera* by Sharpe and Fowler, 1893.

CICINDELIDÆ

Cicindela campestris, L. Found throughout the county, especially in sandy places. March to July

CARABIDÆ

CYCHRINA

Cychrus rostratus, L. Not abundant ; January to December. *Erdington* (Blatch), *Knowle*, *Solihull*

CARABINA

Carabus catenulatus, Scop. Found chiefly in hilly districts ; January to December. *Sutton Coldfield* (Blatch), *Knowle*

— *nemoralis*, Müll. Abundant throughout the county ; January to December

— *violaceus*, L. Widely distributed, but not so abundant as the preceding ; January to December

INSECTS

CARABINA (*continued*)

- Carabus granulatus*, L. Fairly common throughout the county; January to December
- *monilis*, F. Found in all parts throughout the year, but most in evidence in spring and autumn

NOTIOPHILINA

- Notiophilus biguttatus*, F. All localities throughout the year.
- *substriatus*, Wat. All seasons, but mostly during summer. *Knowle* (Blatch), *Solihull*
- *aquaticus*, L. All localities at all seasons
- *palustris*, Duft. Same as the preceding; perhaps rather less abundant

NEBRIINA

- Leistus spinibarbis*, F. Common at roots of trees, under stones, bark, etc., throughout the county; all seasons
- *fulvibarbis*, Dej. Under bark, at roots of trees, etc.; all seasons; common
- *ferrugineus*, L. Under bark, in moss and grass tufts; all seasons; common
- *rufescens*, F. In bogs, grass tufts and sphagnum, on banks of streams and in flood refuse; all seasons; rather less abundant than preceding
- Nebria brevicollis*, F. Common everywhere; all seasons

ELAPHRINA

- Elaphrus riparius*, L. Muddy banks of rivers and ponds; generally distributed. *Knowle* (Blatch), *Edgbaston*, *Stratford-on-Avon*
- *cupreus*, Duft. Habitat and distribution same as last species. *Knowle* (Blatch), *Stratford-on-Avon*

LORICERINA

- Loricera pilicornis*, F. Occurs under all conditions, and is abundant

SCARATINA

- Clivina fossor*, L. Under clods and stones, in moss, grass tufts and hedge refuse. In winter found hibernating 6 or 8 inches below surface of ground; January to December; abundant in all parts
- *collaris*, Herbst. In banks of rivers; local; January to December. *Salford Priors* (Blatch)
- Dyschirius globosus*, Herbst. In boggy places, under refuse, in grass tussocks and moss; all seasons. *Coleshill*, *Sutton Park* (Blatch), *Knowle*

LICININA

- Badister bipustulatus*, F. In grass tufts, hedge rubbish, moss, and under stones. Throughout the year in all localities, but not very abundantly

LICININA (*continued*)

- Badister sodalis*, Duft. Under stones, flood refuse and moss; local and scarce, but found in all seasons. *Knowle*

CHLÆNIINA

- Chlænium vestitus*, Payk. In banks of rivers and ponds, and under stones: January to December. *Alcester* (Blatch)
- *nigricornis*, F. On banks of rivers and marshy places, amongst herbage, etc., May to September, and probably hibernates in mud cracks and at roots of plants. *Edgbaston* (Jackson), *Alcester*

OODINA

- Oodes helopioides*, F. In marshy places at roots of plants. *Knowle*

STENOLOPHINA

- Acupalpus exiguus*, Dej. In sphagnum; all seasons; rare. *Coleshill* (Blatch)
- *exiguus* var. *luridus*, Dej. In sphagnum and at roots of plants in boggy places; local; January to December. *Coleshill* (Blatch), *Knowle*
- *meridianus*, L. At grass roots, in moss, vegetable refuse and haystack bottoms; all seasons; found throughout the county
- Bradycellus cognatus*, Gyll. In boggy places and on heaths; under stones in vegetable refuse; in sphagnum; locally abundant, all seasons. *Coleshill*, *Sutton Park* (Blatch), *Alcester*
- *distinctus*, Dej. In moss and grass tufts, damp places in woods, margins of ponds; January to December. *Coleshill*, *Sutton Park* (Blatch), *Knowle*
- *verbasci*, Duft. Under stones, in moss, grass tufts and flood refuse; January to December; all localities
- *harpalinus*, Dej. Habitat and distribution much the same as preceding, and even more abundant

HARPALINA

- Harpalus rufibarbis*, F. Under refuse on margins of ponds; amongst chips, etc., in woods; in moss and under stones; January to December; throughout the county.
- *ruficornis*, F. Under stones and rubbish; all seasons; all localities
- *æneus*, F. Under stones, vegetable refuse, moss, etc.; all seasons; all localities
- *latus*, L. Under stones, clods, moss and rubbish; all seasons; all localities
- *tardus*, Panz. Under stones in gravel pits; on heaths, etc.; spring to autumn; scarce. *Sutton Park*. Also

A HISTORY OF WARWICKSHIRE

recorded from this locality by the late Mr. Blatch

PTEROSTICHINA

- Stomis pumicatus*, Panz. In banks of ponds and streams, under stones and vegetable refuse; January to December. *Olton, Knowle, Solihull*
- Platyderus ruficollis*, Marsh. Under stones, bark, dead leaves and moss; local; all seasons. *Knowle* (Blatch), *Stratford* (Bloom), *Solihull*
- Pterostichus cupreus*, L. Under stones and clods; in moss, grass tufts and vegetable refuse; January to December; all localities
- *versicolor*, Sturm. In old pastures, wood sides, etc.; all seasons. *Sutton Park* (Blatch), *Knowle, Solihull*
- *madidus*, F. Under stones, clods, moss and refuse; a most abundant species; all seasons and in all parts
- *niger*, Schall. Under bark, stones, moss and rubbish; all seasons and in all localities
- *vulgaris*, L. Habitat and distribution same as the last
- *anthracinus*, Ill. River banks and bogs; local and scarce. *Alcester*; also recorded from this locality by the late Mr. Blatch
- *nigrita*, F. In marshy places, in moss, herbage and at roots of plants; all seasons; abundant everywhere
- *minor*, Gyll. Under reeds; in sphagnum, margins of ponds, etc.; January to December. *Sutton Park, Salford Priors* (Blatch), *Knowle, Coleshill*
- *strenuus*, Panz. In moss and at roots of plants in marshy places; January to December; all localities
- *diligens*, Sturm. Habitat and distribution same as preceding; very abundant
- *picimanus*, Duft. Under bark, stones, moss and refuse, banks of rivers and pools; all seasons; scarce. *Alcester, Salford Priors* (Blatch), *Stratford-on-Avon* (Bloom)
- *inæqualis*, Marsh. Under stones, in grass tufts, banks of rivers and pools; January to December; rare. *Salford Priors* (Blatch), *Stratford* (Bloom), *Knowle*
- *vernalis*, Gyll. In moss, grass tufts and refuse; marshy places and banks of ponds and rivers; all seasons; all localities
- *striola*, F. Under bark, stones and refuse; abundant in places, especially in spring and autumn. *Sutton Park* (Blatch), *Knowle*

AMARINA

- Amara fulva*, Dej. Under stones and clods in sandy places and gravel pits; all seasons; local. Near *Tamworth* (Blatch), *Sutton Coldfield*
- *apricaria*, Sturm. Under stones, refuse, grass tufts and moss; all seasons; all localities
- *consularis*, Duft. Under stones, etc., in sandy places and gravel pits; spring to autumn; scarce. *Sutton Park* (Blatch), *Knowle*
- *bifrons*, Gyll. Under stones and rubbish, especially in sandy places. *Small Heath* (under bones, Blatch), *Knowle*
- *ovata*, F. In moss and grass tufts, under stones, and by sweeping; all seasons; rather scarce. *Alcester, Sutton Park* (Blatch), *Salford Priors, Knowle*
- *similata*, Gyll. Occurs under similar conditions to the last, but rather more frequently met with. *Sutton Park* (Blatch), *Stratford* (Bloom), *Knowle, Coleshill*
- *acuminata*, Payk. Moss and herbage, and by sweeping; all seasons; hibernates in moss and grass roots in pastures, etc.; rather rare. *Sutton Park* (Blatch), *Knowle*
- *nitida*, Sturm. In moss and turf in pastures; taken freely by the late Mr. Blatch and the author at *Knowle*
- *tibialis*, Payk. Under stones on heaths and hills; in sandy places and gravel pits; spring to autumn; local and scarce. *Sutton Park* (Blatch)
- *lunicollis*, Schiod. Under stones; in moss and at roots of grass; all seasons. *Small Heath, Sutton Park* (Blatch), *Knowle, Coleshill*
- *familiaris*, Duft. Under stones, in moss, grass roots and rubbish; all times and in all localities
- *trivialis*, Gyll. Habitat and distribution same as the last
- *communis*, Panz. In moss and turf; under bark and stones; all seasons. *Sutton Park* (Blatch), *Coleshill, Knowle* (plentiful)
- *continua*, Thoms. Amongst herbage, and in moss and grass roots; all seasons; rare. *Knowle*
- *plebeia*, Gyll. Under stones; in moss, etc.; found at all times throughout the county.

ANCHOMENINA

- Calathus cisteloides*, Panz. Under stones, vegetable refuse, moss, etc.; all seasons; all localities

INSECTS

ANCHOMENINA (*continued*)

- Calathus fuscus*, F. Under stones in sandy places. *Sutton Park* (Blatch)
- *flavipes*, Fourc. Under stones, refuse, etc., especially on heaths and hills; spring to autumn. *Coleshill* (Blatch), *Sutton Park*
- *melanocephalus*, L. An abundant species; all seasons; all localities
- *piceus*, Marsh. In sphagnum, the folds of reeds and flags, dead leaves in woods, etc.; all seasons. *Sutton Park* (Blatch), *Coleshill*, *Knowle* (Sept. 1901)
- Taphria nivalis*, Panz. Under stones and moss; all seasons. *Small Heath* (Blatch), *Knowle*
- Pristonychus terricola*, Herbst. In cellars, stables, banks of rivers, moss and under bark; all seasons; all localities, urban and rural
- Anchomenus angusticollis*, F. Under loose bark; amongst herbage; at roots of trees in woods; all seasons; all localities
- *dorsalis*, Müll. Under stones, refuse, moss, loose bark and herbage at roots of trees; all seasons; all localities
- *albipes*, F. On banks of streams and ponds, in moss and vegetable refuse; abundant everywhere; all seasons
- *oblongus*, Sturm. Amongst herbage and under willow bark in wet places; all seasons. *Salford Priors* (Blatch), *Stratford-on-Avon* (Bloom)
- *marginatus*, L. Margins of ponds and rivers; January to December; hibernates in crevices. *Edgbaston* (Jackson), *Sutton Park* (Blatch), *Knowle*
- *parumpunctatus*, F. Under stones, in moss, grass tufts, hotbeds and refuse generally; all seasons; plentiful in all localities
- *atratus*, Duft. In marshy places; on banks of rivers and pools and under stones; spring to autumn; local and scarce. *Alcester*, *Sutton Park* (Blatch), *Coleshill*
- *viduus*, Panz. In moss and refuse in damp places; all seasons. *Sutton Park* (Blatch), *Knowle*, *Solihull*
- *viduus* var. *moestus*, Duft. Found with the type form, and rather more plentiful
- *micans*, Nic. Under loose bark of decaying logs, and in moss and herbage in marshy places and banks of rivers and ponds; all localities; all seasons

ANCHOMENINA (*continued*)

- Anchomenus fuliginosus*, Panz. In sphagnum and herbage in marshy places; abundant at all times and in all localities
- *gracilis*, Gyll. In sphagnum, grass tussocks, etc., in boggy places; all seasons; local. *Tysoe*, *Sutton Park*, *Salford Priors* (Blatch), *Knowle*, *Coleshill*
- *piceus*, L. Habitat and distribution same as the preceding
- *thoreyi*, Dej. In sphagnum, axils of flags and vegetable refuse; on margins of pools. *Coleshill*, *Sutton Park* (Blatch), near *Knowle*
- *puellus*, Dej. Found under same conditions and in the same localities as the preceding
- Olisthopus rotundatus*, Payk. Under stones, refuse and moss; all seasons; all localities

BEMBIDIINA

- Bembidium rufescens*, Guér. Under refuse, etc., in marshy places; all seasons; all localities
- *quinqvestriatum*, Gyll. On walls and under stones. *Olton*, *Small Heath* (Blatch), *Knowle*
- *obtusum*, Sturm. In moss, refuse, hotbeds, etc.; partial to dry situations; abundant at all times and in all situations
- *guttula*, F. In all sorts of habitats, and met with in profusion everywhere
- *mannerheimi*, Sahl. In damp woods, flood refuse, margins of streams and ponds; all seasons; all localities
- *biguttatum*, F. In habitat and range similar to preceding
- *riparium*, Ol. Damp places, banks of streams and ponds, amongst herbage, under stones, etc.; all localities, but not so abundant as preceding
- *æneum*, Germ. Under refuse, stones and bark in damp places; local. *Alcester*, *Tysoe* (Blatch), *Stratford*, *Knowle*
- *articulatum*, Panz. On margins of streams and ponds; spring to autumn. *Tysoe*, *Salford Priors* (Blatch), *Knowle*
- *doris*, Panz. In moss and vegetable refuse on margins of ponds and streams; all seasons; local. First taken in midlands by Mr. Blatch and Mr. Tait at *Waterfield*; *Water Lane*, *Knowle*
- *lampros*, Herbst. Found under all sorts of conditions at all times and in all localities

A HISTORY OF WARWICKSHIRE

ANCHOMENINA (*continued*)

- Bembidium lampros* var. *velox*, Er. Under stones and amongst herbage; all seasons; local and scarce. *Stratford, Salford Priors* (Blatch), *Knowle, Solihull*
- *nitidulum*, Marsh. In shingle, moss, refuse, and under stones and bark; occurs everywhere, often in profusion
- *affine*, Steph. In gravel pits, stone quarries, and mud banks of rivers and pools; all seasons; rather scarce. *Sutton Park, Salford Priors*
- *quadriguttatum*, F. Under refuse, bark, moss, etc.; at all times and in all places
- *quadrinotatum*, Gyll. In moss, hedge refuse, under bark, etc.; abundant everywhere
- *femoratum*, Sturm. Under stones, and on margins of pools and streams; all seasons; local. *Sutton Park*
- *bruxellense*, Wesm. In shingle and refuse on banks of rivers and ponds; all seasons; local. *Sutton Park*
- *littorale*, Ol. In moss, shingle, hedge refuse, hotbeds, etc.; abundant everywhere
- *bipunctatum*, L. Amongst shingle refuse on banks of rivers and ponds; all seasons; local. *Sutton Park*
- *flammulatum*, Clairv. Banks of rivers and ponds; abundant everywhere
- *adustum*, Schaum. Found in profusion on the river *Severn* by the late Mr. Blatch, who believed he also took a few specimens at *Salford Priors* in Warwickshire

Tachypus flavipes, L. In hedge refuse, moss, grass tufts, and under stones; all seasons; *Stratford-on-Avon* (Blatch), *Knowle*

TRECHINA

- Trechus discus*, F. In banks of rivers; under flood refuse and stones; all seasons; local. *Salford Priors* (Blatch)
- *micros*, Herbst. Found under similar conditions as the preceding. *Small Heath* (Blatch), *Salford Priors*
- *minutus*, F. In rubbish, hotbeds, moss, grass roots and hedge refuse; abundant everywhere
- *minutus* var. *obtusius*, Er. Under stones, refuse, and in moss; all seasons. *Sutton Park* (Blatch), *Knowle*
- *secalis*, Payk. Margins of ponds and rivers, and under bark and chips in woods; all seasons; all localities
- Patrobus excavatus*, Payk. Under stones; in moss on mud banks; all seasons; all localities

LEBIINA

- Lebia chlorocephala*, Hoff. On broom, and in moss and under stones. *Stratford-on-Avon* (Bloom)
- Demetrias atricapillus*, L. In hedge refuse, grass tufts and moss; abundant everywhere
- Dromius linearis*, Ol. In hedge refuse, grass tufts and moss; all times and all places
- *agilis*, F. Under bark; all seasons; throughout the county
- *meridionalis*, Dej. Habitat and distribution same as the preceding
- *quadrinotatus*, L. Under bark; all seasons; abundant
- *quadrinotatus*, Panz. Under bark, sedges and moss; all localities
- *quadrisignatus*, Dej. Under bark of various trees; rare in the midlands. *Sutton Park*; also recorded from this locality by the late Mr. Blatch
- *melanocephalus*, Dej. In vegetable refuse, grass tufts and moss; abundant everywhere
- Blechnus maurus*, Sturm. Under stones, moss and refuse. Spring to autumn. *Leamington* (Blatch)
- Metabletus foveola*, Gyll. In vegetable refuse, moss, dung, etc.; all seasons and in all localities
- *truncatellus*, L. In grass tufts and vegetable refuse; all seasons; less abundant than the preceding
- *obscurus-guttatus*, Duft. In moss, refuse, etc.; scarce. *Salford Priors* (Blatch), *Knowle*

HALIPLIDÆ

- Brychius elevatus*,¹ Panz. In streams and ponds. *Solihull* (Blatch), *Knowle*
- Haliplus obliquus*,² F. Local. *Sutton Park* (Blatch), *Knowle*
- *confinis*, Steph. Rare. *Knowle*
- *flavicollis*, Sturm. Rather local. *Salford Priors* (Blatch), *Knowle*
- *fulvus*, F. Scarce. *Sutton Park* (Blatch), *Knowle*
- *cinereus*, Aubé. Rare. *Knowle*
- *ruficollis*, De G. Abundant in all localities
- *fluvialis*, Aubé. Rather local. *Salford Priors, Coleshill, Sutton Park* (Blatch), *Knowle*
- *striatus*, Sharp. Local and rare. *Knowle*

¹ All the water beetles are found throughout the year, although the majority are most active in early spring.

² All the species of this genus are found in streams, ponds and ditches.

INSECTS

Haliplus lineatocollis, Marsh. Abundant in all localities

PELOBIIDÆ

Pelobius tardus, Herbst. Rare. *Stratford-on-Avon* (Bloom), near *Harborne*

DYTISCIDÆ

NOTERINA

Noterus sparsus, Marsh. In streams, canals and ponds. Near *Tamworth*, *Salford Priors* (Blatch), *Sutton Park*, *Knowle*

LACCOPHILINA

Laccophilus interruptus, Panz. In ponds and canals. *Salford Priors*, *Sutton Park* (Blatch), *Knowle*

— *obscurus*, Panz. In ponds and canals; all localities

HYDROPORINA

Hyphydrus ovatus, L. In ponds and ditches; abundant everywhere

Cœlambus versicolor, Schall. In ponds, ditches and streams. *Salford Priors*; *Sutton Park* (Blatch), *Knowle*

— *inæqualis*, F. Ponds, ditches and streams; abundant everywhere

— *confluens*, F. *Sutton Park* (Blatch)

Deronectes assimilis, Payk. In ponds, ditches and streams. *Salford Priors* (Blatch), *Sutton* and *Knowle*

— *depressus*, F. Occurs mostly in streams; throughout the midlands

— *duodecim-pustulatus*, F. In streams; local. *Sutton* (Blatch), *Knowle*

Hydroporus pictus, F. In ponds and streams; all localities

— *lepidus*, Ol. In both stagnant and running water; local. *Sutton Park* (Blatch), *Knowle*

— *rivalis*, Gyll. Abundant in a small stream between *Knowle* and *Solibull*

— *dorsalis*, F. In ponds; apparently scarce. *Knowle* (Blatch), *Chadwick End*

— *lineatus*, F. Abundant in ponds; everywhere

— *umbrosus*, Gyll. } In ponds; rare.

— *angustatus*, Sturm. } *Knowle*

— *gyllenhali*, Schiöd. In ponds and streamlets; especially in woods.

Sutton, *Coleshill* (Blatch), *Knowle*

— *palustris*, L. Plentiful in ponds; all localities

— *erythrocephalus*, L. In ponds; everywhere

— *memnonius*, Nic. In ponds and stumps of newly felled oaks in woods; uncommon; all localities

HYDROPORINA (continued)

Hydroporus nigrita, F. In ponds; especially in woods. *Knowle*

— *pubescens*, Gyll. Abundant everywhere

— *planus*, F. All localities; plentiful

— *litturatus*, F. In ponds in woods and open country; local and scarce. *Knowle* (Blatch), *Bently Heath*

— *marginatus*, Duft. Pits in woods and in osier beds. *Solibull* (Blatch, record only); *Knowle*

DYTISCINA

Agabus guttatus, Payk. In ponds; local. *Sutton Park* (Blatch)

— *paludosus*, F. In brooks and pools. *Knowle* (Blatch), *Solibull*

— *affinis*, Payk. In sphagnum, grass tussocks, etc. *Sutton Park* (Blatch)

— *ungicularis*, Thoms. Under similar conditions to the preceding and in same locality

— *didymus*, Ol. In streams and ponds. *Salford Priors* (Blatch)

— *nebulosus*, Forst. In ponds; local. *Knowle* (in great abundance)

— *sturmii*, Gyll. In ponds; frequent. *Knowle*

— *chalconotus*, Panz. In ponds and streams. *Coleshill*, *Sutton Park* (Blatch), *Knowle*

— *bipustulatus*, L. In ponds; abundant everywhere

— *bipustulatus* var. *solieri*, Aubé. Habitat same as type. *Knowle*

Platambus maculatus, L. In brooks throughout the district

Ilybius fuliginosus, F. In brooks and ponds; all localities

— *ater*, De G. In ponds; everywhere

— *guttiger*, Gyll. In bogs; rare. *Coleshill*

— *ænescens*, Thoms. In ponds and bogs. *Tysoe* (Blatch), *Knowle*

Copelatus agilis, F. In ponds; very rare. Near *Knowle*

Rhantus exoletus, Forst. In pools and pits. *Knowle*

— *bistriatus*, Berg. In pools and pits. *Sutton Park* (Blatch), *Knowle*

Colymbetes fuscus, L. In ponds, dykes and streams; all localities

Dytiscus punctulatus, F. In ponds and slowly running streams; not uncommon throughout *England* (Fowler), *Knowle*

— *marginalis*, L. Abundant in ponds; in all localities

Acilius sulcatus, L. In ponds and ditches; everywhere

A HISTORY OF WARWICKSHIRE

GYRINIDÆ

- Gyrinus natator*, Scop. Ponds, ditches and brooks; abundant everywhere
 — *marinus*, Gyll. Ponds, streams, etc.; local. *Salford Priors* (Blatch), *Knowle*
 — *opacus*, Sahl. Canals and ponds. *Leamington* (Blatch), *Knowle*
Orectochilus villosus, Müll. Under submerged stones; margins of rivers and brooks; in winter may be dug out of the banks. *Alcester*, *Salford Priors* (Blatch), *Knowle*

HYDROPHILIDÆ

HYDROPHILINA

- Hydrobius fuscipes*, L. In ponds, etc.; everywhere
 — *pivicrus*, Thoms. Ponds and ditches. *Knowle*
Philhydrus nigricans, Zett. Ponds and ditches. *Knowle*
 — *coarctatus*, Gredl. Ponds, etc. *Knowle*
Anacæna globulus, Payk. In boggy and marshy places; abundant everywhere
 — *limbata*, F. Ponds and ditches; all localities
Holochares lividus, Forst. Wet places; ponds and ditches. *Knowle*
Laccobius sinuatus, Mots. Banks of streams and pools. Near *Tamworth* (Blatch), *Knowle*
 — *alutaceus*, Thoms. Damp places; margins of ponds, etc. *Knowle*
 — *minutus*, L. Boggy places and margins of pools, etc. *Knowle*
 — *bipunctatus*, F. Wet places. *Knowle*
Limnebius truncatellus, Thoms. Banks of streams, canals and ponds. *Solihull* (Blatch), *Knowle*
 — *papposus*, Muls. Habitat same as preceding. *Knowle*
 — *nitidus*, Marsh. Margins of brooks, ditches and damp places. *Knowle*
 — *pivicrus*, Marsh. Ponds and ditches; rare. *Knowle*
Chætarthria seminulum, Herbst. In moss and grass roots in marshy places. *Solihull* (Blatch), *Knowle*

HELOPHORINA

- Helophorus nubilus*, F. In wet places; moss and flood refuse; all localities
 — *aquaticus*, L. In wet places; moss and hedge refuse; abundant everywhere
 — *aquaticus* var. *æqualis*, Thoms. Found with the preceding, but less abundantly
 — *dorsalis*, Marsh. Banks of brooks, ditches, etc., and in moss. *Knowle*

HELOPHORINA (continued)

- Helophorus æneipennis*, Thoms. In damp places; all localities
 — *brevipalpis*, Bedel. Margins of brooks, etc.; abundant
Hydrochus angustatus, Germ. Margins of streams and ponds. *Knowle*
Ochthebius margipallens, Latr. Margins of ponds and streams. *Sutton Park* (Blatch), *Knowle*
 — *poweri*, Rye. Ponds. *Knowle*
 — *pygmæus*, F. Margins of ponds and in bogs. *Knowle*
 — *bicolon*, Germ. Ponds and ditches, and in moss. *Knowle*
 — *rufimarginatus*, Steph. In flood refuse; rare. *Knowle*
Hydræna riparia, Kug. Marshy places; margins of ponds, etc. *Knowle*
 — *nigrita*, Germ. In running water and marshy places. *Knowle*
 — *angustata*, Sturm. Amongst herbage on margins of streams. *Knowle*
 — *pulchella*, Germ. In running water; rare. *River Blythe* near *Knowle*

SPHÆRIDIIINA

- Cyclonotum orbiculare*, F. Banks of streams, ponds and ditches; all localities
Sphæridium scarabæoides, F. In dung, moss, roots of grass, etc.; abundant everywhere
 — *bipustulatum*, F. Found with preceding, but less abundantly
 — *bipustulatum* var. *marginatum*, F. In dung, moss, etc.; all localities
 — *bipustulatum* var. *semistriatum*, Cast. Found with the preceding but scarcer
*Cercyon*¹ *hæmorrhous*, Gyll. At roots of grass, in moss, flood refuse, dead leaves and dung; all localities
 — *hæmorrhoidalis*, Herbst. Found with preceding. The late Mr. Blatch also found this species in nest of *Formica rufa* at Bewdley (Worcestershire)
 — *obsoletus*, Gyll. *Small Heath* (Blatch), *Knowle*
 — *flavipes*, F. *Small Heath* (Blatch), *Knowle*
 — *lateralis*, Marsh. All localities
 — *melanocephalus*, L. Abundant everywhere
 — *unipunctatus*, L. All localities
 — *quisquilius*, L. *Knowle*
 — *nigriceps*, Marsh. *Edgbaston* (Blatch), *Knowle*
 — *pygmæus*, Ill. *Knowle*

¹ All the species of *Cercyon* may be found under similar conditions unless otherwise stated.

INSECTS

SPHÆRIDIINA (*continued*)

- Cercyon terminatus*, Marsh. *Knowle*
 — *analys*, Payk. All localities
 — *lugubris*, Payk. *Knowle*
 — *granarius*, Er. "
 — *minutus*, Muls. *Knowle* and *Solihull*
Megasternum boletophagum, Marsh. In vegetable refuse, moss, dung, fungi, etc.; abundant everywhere

Cryptopleurum atomarium, F. Habitat and distribution same as preceding

NOTE.—All the *Hydrophilidæ* are to be found throughout the year.

STAPHYLINIDÆ

ALEOCHARINA

- Aleochara ruficornis*, Grav. In moss, vegetable refuse, etc.; rare. *Sutton Park*
 — *fuscipes*, F. In dead animals, fungi and vegetable refuse; all seasons; abundant everywhere
 — *brevipennis*, Grav. In grass tufts in marshy places. *Knowle*
 — *bipunctata*, Ol. In moss, grass tufts, dead leaves, hedge refuse, etc.; all seasons, sparingly. *Tysoe*; *Salford Priors*, *Sutton Park* (Blatch), *Knowle* and *Solihull*
 — *cuniculorum*, Kr. In moss and under dead moles. *Knowle*
 — *lanuginosa*, Grav. In moss, grass tufts, dead leaves, dung, etc.; at all seasons and in all localities
 — *lygæa*, Kr. In dead birds and moles, etc.; rare. *Knowle* (Blatch, June 1893), (the author, 1899)
 — *villosa*, Maun. In moss and decaying leaves; rare. *Knowle*
 — *succicola*, Thoms. In moss; rare. *Knowle*
 — *mœsta*, Grav. Habitat and distribution same as *A. lanuginosa*
 — *mœrens*, Gyll. In carrion, fungi, dead leaves, moss, etc.; rare. *Knowle* (Blatch)
 — *nitida*, Grav. In moss, hedge rubbish, dung, etc.; all seasons; all localities
 — *nitida* var. *belineata*, Gyll. At sap on oak stumps; spring to autumn; scarce. *Knowle* (Blatch, record only), near *Coleshill*
 — *morion*, Grav. Abundant in dung, hotbeds, moss, grass tufts and fungi; all seasons; all localities
Microglossa suturalis, Sahl. Bottoms of haystacks, in cowsheds, moss and grass tufts; all seasons. *Edgbaston*; *Sutton Park* (Blatch), *Knowle*

ALEOCHARINA (*continued*)

- Microglossa nidicola*, Fairm. In and near nests of sand martins. Found abundantly in spring and summer in all localities where the sand martin builds
Oxypoda spectabilis, Märk. In grass tufts, vegetable refuse, etc.; rare. *Knowle*
 — *lividipennis*, Mann. In moss and hedge refuse and in decaying fungi. Found throughout the year in all localities
 — *opaca*, Grav. In hotbeds, vegetable refuse, etc.; abundant everywhere at all times
 — *alternans*, Grav. In fungi; all seasons; abundant everywhere
 — *exoleta*, Er. Under bones at *Small Heath* (Blatch); under bark, *Sanderland Coppice*, *Knowle*
 — *leutula*, Er. Amongst decaying leaves, etc., on margins of ponds in woods; all seasons; scarce. *Knowle* (Blatch)
 — *umbrata*, Grav. In moss, grass tufts, under bones and bark; all seasons. *Knowle*, *Olton*, *Small Heath* (Blatch), *Knowle*
 — *pectita*, Sharp. Under bones and stack refuse; rare. *Knowle*, under bones (Blatch); *Knowle*, stack refuse
 — *nigrina*, Wat. In moss, grass tufts, hotbeds and under bark, etc. *Knowle*, *Tysoe*, *Small Heath*, *Coleshill*, *Sutton* (Blatch)
 — *mutata*, Sharp. *Knowle* (Blatch)
 — *longiuscula*, Er. In damp places; all seasons; abundant everywhere
 — *formeceticola*, Märk. In nests of *Formica rufa*. *Knowle*
 — *hæmorrhœa*, Mann. In moss, hotbeds, under bark and in nests of *Formica rufa*; all seasons. *Edgbaston*, *Sutton* (Blatch), *Knowle*
 — *waterhousei*, Rye. In vegetable refuse, in marshy places. *Knowle* (Blatch, record only)
 — *soror*, Thoms. In moss on oak trunks. *Knowle* (Blatch, record only)
 — *annularis*, Sahl. In moss and dead leaves; scarce; all seasons. *Knowle* (Blatch)
 — *brachyptera*, Steph. Found by the late Mr. Blatch, and also by the author in an old cowshed at *Knowle*
Thiasophila angulata, Er. In nests of *Formica rufa*; local. Near *Tamworth* (Blatch), *Knowle*
Ischnoglossa prolixa, Grav. Under bark of dead trees; abundant; all seasons. All localities

A HISTORY OF WARWICKSHIRE

ALEOCHARINA (*continued*)

- Ischnoglossa corticina*, Er. Under bark ; all seasons. *Olton, Sutton Park* (Blatch), *Knowle*
- Ocyusa incrassata*, Kr. In moss and leaves and under bark ; all seasons ; all localities ; often abundant
- *maura*, Er. In boggy places, in grass tussocks, etc. ; all seasons ; local. *Knowle, Coleshill, Sutton* (Blatch)
- *picina*, Aubé. Habitat same as preceding ; very local. *Sutton Park* (abundant in the bogs at all times)
- Phlæopora reptans*, Grav. Under bark of dead trees ; all seasons ; abundant in all localities
- *corticalis*, Grav. Under bark of holly and other trees ; all seasons ; scarce. *Sutton Park*
- *corticalis* var. *transita*, Muls. Under bark ; rare. *Sutton Park* (Blatch)
- Ocalea castanea*, Er. In moss, grass tufts, fungi, etc. ; all seasons ; plentiful ; all localities
- *latipennis*, Sharp. Margins of ponds and streams ; rare ; all seasons. *Knowle*
- *badia*, Er. Grass tufts and moss in damp places ; all seasons. *Solibull* (Blatch), *Knowle*
- Ilyobates nigricollis*, Payk. Amongst dead leaves in woods, in banks of rivers and under stones ; spring to autumn ; rare. *Knowle*
- Calodera nigrita*, Mann. Marshy places ; rare. *Solibull* (Blatch)
- *æthiops*, Grav. In grass tufts and decaying vegetable matter, etc. ; all seasons ; local. *Knowle*
- *umbrosa*, Er. In gravel pits, on muddy margins of ponds, amongst shingle ; all seasons ; rare. *Knowle*. Also once found by Mr. G. W. Tait in his wine cellar at *Knowle*
- Chilopora longitarsus*, Steph. Banks of ponds and streams. Abundant at all times and in all localities
- Myrmedonia humeralis*, Grav. In and near nests of *Formica rufa*. *Knowle*
- Astilbus canaliculatus*, F. In ants' nests, grass tufts, moss, and under stones ; all seasons ; abundant throughout the midlands
- Callicerus obscurus*, Grav. In moss, herbage on river banks and bone heaps ; flies about on the first sunny days of spring and in winter hibernates in moss ; scarce. *Knowle* (Blatch)
- Thamiaræa cinnamomea*, Grav. At sap of trees infested with *Cossus* ; in

ALEOCHARINA (*continued*)

- hedge refuse and on posts ; spring to autumn ; rather scarce. *Knowle* (Blatch), *Solibull*
- Thamiaræa hospita*, Märk. Habitat same as preceding. *Knowle, Solibull*
- Notothecta flavipes*, Thoms. In nests of *Formica rufa* ; all seasons. *Knowle*
- *anceps*, Gr. Habitat and distribution same as preceding, but scarcer
- Alianta incana*, Er. In grass tussocks, etc., in bogs and wet places ; all seasons ; local. *Coleshill, Sutton* (Blatch), *Knowle*
- Homalota pavens*, Er. Amongst shingle in river beds, etc., and under bones ; spring to autumn ; rare. *Knowle*
- *gregaria*, Er. In grass tufts, moss and hedge refuse ; all seasons and all localities
- *luteipes*, Er. Banks of rivers and brooks ; spring and summer. Near *Birmingham* (Blatch)
- *luridipennis*, Mann. In dead leaves and moss in woods, under bark, bones, etc. ; all seasons and all localities
- *gyllenhali*, Thoms. In moss and grass tufts and under bones ; all seasons and in all localities
- *hygrotopora*, Kr. In moss and muddy places on banks of streams and ponds ; all seasons. *Birmingham, Sutton* (Blatch), *Knowle*
- *elongatula*, Grav. In moss and herbage, especially in damp places ; abundant at all times and in all places.
- *volans*, Scrib. Found with the preceding, and equally widely distributed but less abundant
- *nitidula*, Kr. In dead moles ; rare. *Knowle* (Blatch)
- *oblongiuscula*, Sharp. In moss, haystack refuse, and under bones ; found sparingly at all seasons. *Small Heath, Sutton Park, Solibull* (Blatch), *Knowle*
- *sylvicola*, Fuss. Amongst dead leaves in woods, moss and grass tufts ; all seasons ; not abundant. *Coleshill* (Blatch), *Knowle*
- *vicina*, Steph. Hedge refuse, moss, bones, etc. ; all seasons ; all localities
- *pagana*, Er. Dead leaves in woods and under bones ; found throughout the year, but is scarce. *Small Heath* (Blatch)
- *graminicola*, Gyll. In moss and grass tufts in marshy places ; all seasons and in all localities

INSECTS

ALEOCHARINA (*continued*)

- Homalota occulta, Er. In moss and under bones; spring to autumn; rather scarce. *Knowle, Small Heath* (Blatch)
- fungivora, Thoms. In moss, fungi, grass tufts and under bones and bark; all seasons; all localities, often in profusion
- picipes, Thoms. In lawn clippings and under bones and bark; rare. *Small Heath* (Blatch), *Knowle*
- monticola, Thoms. Under bones and dead moles; in grass tufts and fungi; all seasons; abundant locally. *Small Heath, Knowle* (Blatch), *Solihull*
- nigella, Er. In bogs and marshy places at roots of plants and in folds of typha, carex, etc.; local. *Earlswood, Tamworth, Coleshill, Sutton* (Blatch), *Knowle*
- æquata, Er. Under bark of dead trees and logs; at all seasons and in all places where dead trees and logs occur
- augustula, Gyll. Bones, fungi, hotbeds, bark and marshy places; spring to autumn; scarce. *Knowle, Small Heath* (Blatch)
- linearis, Grav. In moss and bark, fungi and carrion; all seasons. *Knowle*
- pilicornis, Thoms. At sap, in moss, leaves and under bark; all seasons; scarce. *Knowle, Solihull* (Blatch)
- debilis, Er. In moss, flood refuse, wet shingle, etc.; rare; all seasons. *Knowle* (Blatch)
- fallaciola, Sharp. Grass tufts in bogs; rare. *Coleshill* (Blatch), *Sutton*
- circellaris, Grav. In moss, grass tufts, hedge rubbish, etc.; abundant at all times and in all localities
- immersa, Heer. Under bark of various trees; all seasons; fairly plentiful. *Edgbaston, Small Heath* (Blatch), *Sutton, Knowle*
- cuspidata, Er. Found with the preceding, and very abundant at all times throughout the midlands
- eremita, Rye. In sphagnum, in boggy places. *Coleshill* (Blatch), *Sutton*
- curtippennis, Sharp. Grass tussocks, in bogs and in sphagnum; local. *Sutton* (Blatch)
- analis, Grav. All kinds of habitats, all seasons and in all localities
- decipiens, Sharp. Amongst dead leaves, etc.; rare. *Knowle*
- soror, Kr. Marshy places. *Stratford-on-Avon* (Bloom)
- exilis, Er. Roots of grass in damp pastures and under bark; all sea-

ALEOCHARINA (*continued*)

- sons; rare. *Knowle* (Blatch), *Salford Priors*
- Homalota depressa, Gyll. In moss and dead leaves, on walls and fences; local and scarce; spring to autumn. *Knowle* (Blatch)
- hepatica, Er. Grass tufts and leaves in woods; all seasons; rare. *Knowle*
- aquatica, Thoms. In moss, fungi, grass tufts, carrion and under bark; all seasons; fairly plentiful throughout midlands
- æneicollis, Sharp. Habitat and distribution same as preceding
- xanthoptera, Steph. Found under similar conditions and in the same localities as the preceding
- valida, Kr. Amongst dead leaves in woods; all seasons. *Knowle* (Blatch)
- euryptera, Steph. At sap, in moss, dead leaves, fungi and under bones; found throughout the year, but is active only during spring, summer and early autumn; plentiful everywhere
- trinotata, Kr. Found with the preceding; also in hotbeds; all seasons and in all localities
- xanthopus, Thoms. Bones, refuse, moss, hotbeds, fungi, bark; plentiful in summer, rarely met with in winter; all localities
- triangulum, Kr. Habitat same as preceding; all seasons; found throughout midlands; not so abundant as preceding
- fungicola, Thoms. Fungi, moss, leaves, bones, carcasses, hotbeds; abundant at all times (especially summer); all localities
- ignobilis, Sharp. In fungi, moss, dead moles and in sap; all seasons; rather scarce. *Knowle* (Blatch), *Solihull*
- boletobia, Thoms. In fungi; occasionally in moss and hedge refuse; fairly plentiful spring to autumn; scarce in winter. *Knowle, Berkswell* (Blatch), *Packwood*
- liturata, Steph. In polypori; spring to autumn; rare in midlands. *Edge Hill*
- coriaria, Kr. Hotbeds, moss and sap; abundant locally in fresh lawn clippings during summer; rare in winter. *Knowle* (Blatch)
- sodalis, Er. In moss, fungi, vegetable refuse and under bones, etc.; all seasons and all localities

A HISTORY OF WARWICKSHIRE

ALEOCHARINA (*continued*)

- Homalota humeralis, Kr. In fungi ; spring to autumn ; rare. *Knowle* (Blatch)
- clancula, Er. Amongst decaying leaves, vegetable refuse and grass tufts ; generally rare. Taken in utmost profusion at *Knowle*
- gagatina, Baudi. In fungi, moss, dead leaves, carrion, etc. ; all seasons. *Knowle* (Blatch), *Solihull*
- divisa, Märk. Fungi, moss, bones, carrion, dung, etc. ; all seasons. *Knowle*
- divisa var. Blatchii, Ellis (*Ent. Rec.* xiii. 250). Taken first by the late Mr. Blatch in dead moles and hedgehogs, and afterwards by the author in dead moles at *Knowle*
- nigricornis, Thoms. In fungi, moss, grass tufts, carcasses, etc. ; all seasons and all localities
- ravilla, Er. Habitat and distribution much the same as the preceding
- palustris, Kies. In moss, vegetable refuse, fungi, leaves and bones, and in marshy places ; all seasons ; abundant ; all localities
- corvina, Thoms. Under bark, dung, carcasses ; in moss and fungi ; all seasons ; not abundant. *Knowle*, *Sutton* (Blatch)
- atomaria, Kr. Under dead moles, in moss and dead leaves ; spring to autumn, occasionally winter. *Knowle*, *Sutton* (Blatch)
- perexigua, Sharp. Lawn clippings, moss, hedge refuse, under dead moles ; all seasons. *Knowle* (Blatch)
- oblita, Er. In fungi and at sap of cossus trees, in dead leaves and moss ; all seasons ; scarce. *Knowle*
- autumnalis, Er. Under bark and flood refuse ; in decaying leaves and in grass tufts at margins of ponds in woods ; found throughout the year and not scarce. *Solihull*, *Salford Priors*, *Packwood* (Blatch), *Knowle*
- sericea, Muls. Abundant in all sorts of habitats, at all times and in all localities
- subtilis, Scriba. In moss and under bark ; rare. Mr. Blatch records this species from *Sutton* and *Knowle*
- indiscreta, Sharp. Rare. *Knowle*
- indubia, Sharp. In moss, grass tufts, lawn clippings, dead moles, etc. ; all seasons. *Small Heath* (Blatch), *Knowle*, abundant
- mortuorum, Thoms. Mr. Blatch records this species from Warwick-

ALEOCHARINA (*continued*)

- shire, but has some doubt as to the identity of the specimen
- Homalota atricolor, Sharp. In moss, grass tufts, hedge refuse, carrion, dung, etc. ; all seasons ; abundant ; all localities
- inquinula, Grav. On sappy stumps of newly-felled oaks. *Knowle* (Blatch)
- nigra, Kr. All sorts of habitats ; abundant at all times and in all localities
- hodierna, Sharp. Under bones. *Knowle*
- germana, Sharp. Occurs with *H. nigra*, but is less plentiful
- sordidula, Er. In moss, grass tufts, fungi, dung and dead leaves ; all seasons. *Sutton Park* (Blatch), *Knowle*, *Solihull*
- canescens, Sharp. In moss, grass tufts, fungi, dung, carrion, etc. ; all seasons. *Knowle*
- cauta, Er. In moss, grass tufts, dung, carrion, hotbeds, bones, etc. ; abundant at all times and in all places
- villosula, Kr. In moss, grass tufts, dead leaves and fungi ; all seasons and all localities
- setigera, Sharp. Found with the two preceding species and equally plentiful and widely distributed
- lævana, Muls. In fungi, bones, etc. ; rare. *Small Heath* (Blatch), *Knowle*
- cinnamoptera, Thoms. In moss, grass tufts, dead leaves, fungi and at sap ; all seasons ; found throughout the county
- macrocera, Thoms. In cut grass, carrion, dung, hotbeds, etc. ; all seasons. *Small Heath*, *Sutton Park*, *Knowle* (Blatch)
- atramentaria, Gyll. In dung, fungi, grass tufts, moss, etc. ; abundant throughout the year and in all localities
- cadaverina, Bris. In carrion, fungi and dead leaves ; spring to autumn ; rare. *Knowle* (Blatch)
- marcida, Er. In fungi, moss and under bark ; scarce ; found chiefly in autumn. *Knowle* (Blatch), *Sutton Coldfield*
- intermedia, Thoms. In moss, dead leaves in woods and fungi ; all seasons ; scarce. *Knowle* (Blatch), *Packwood*
- longicornis, Grav. In all sorts of habitats ; abundant ; all seasons and in all localities
- sordida, Marsh. In hotbeds, dung, moss, etc. ; all seasons ; extremely plentiful in all localities
- testudinea, Er. In moss, grass tufts,

INSECTS

ALEOCHARINA (*continued*)

- dead leaves and hedge refuse ; all seasons ; often abundant. *Harborne* (Blatch), *Knowle*
- Homalota aterrima*, Grav. In hotbeds, moss, dung and carrion, etc. ; always abundant everywhere
- *pygmaea*, Grav. Occurs with the above and is equally plentiful
- *muscorum*, Bris. In moss, grass tufts, fungi, carrion and at sap ; all seasons ; all localities ; sometimes plentiful
- *pilosiventris*, Thoms. In moss, dead leaves, carrion ; under bark and at oak sap ; generally rare ; sometimes plentiful. *Knowle*
- *laticollis*, Steph. In hotbeds, moss, leaves, etc. ; all seasons and all localities
- *subsinuata*, Er. In moss, hotbeds, grass tufts, sappy stumps ; all seasons ; rather scarce. *Small Heath, Birmingham* (Blatch), *Knowle*
- *montivagans*, Woll. In cowshed refuse ; rare. *Knowle*
- *orbata*, Er. In moss ; scarce. *Knowle* (Blatch)
- *fungi*, Grav. Always plentiful in all sorts of habitats and localities
- *fungi* var. *dubia*, Sharp. Found with the above and generally recognized as a variety of it
- *fungi* var. *clientula*, Er. Less plentiful than the preceding, but in other respects the same remarks apply
- *orphana*, Er. Found under same conditions as preceding. *Knowle*
- Gnypeta labilis*, Er. On banks of streams and ponds ; in sandpits and carrion ; all seasons, but mostly in summer ; all localities
- Tachyusa constricta*, Er. Banks of brooks and rivers ; spring to autumn ; locally abundant. *Knowle*
- *atra*, Grav. Margins of ponds and streams, and amongst dead leaves in woods ; scarce ; all seasons. *Knowle* (Blatch), *Coleshill*
- Falagria sulcata*, Payk. In moss, hotbeds, dung, bones, etc. ; abundant at all times and in all localities
- *sulcatula*, Grav. In moss, hotbeds, etc. fond of damp places. *Knowle* (Blatch), *Edgbaston*
- *thoracica*, Curt. Under stones and vegetable refuse ; spring to autumn ; scarce. *Edgbaston*
- *obscura*, Grav. In hotbeds, stack refuse, moss, etc. ; all seasons and all localities

ALEOCHARINA (*continued*)

- Autalia impressa*, Ol. In fungi and decaying leaves ; very plentiful during summer and may be shaken out of dead leaves in winter ; all localities
- *rivularis*, Grav. In moss, hedge refuse, hotbeds, dung, carrion ; all seasons ; abundant in all localities
- Encephalus complicans*, Westw. In moss, dead leaves, grass tufts and stack refuse ; all seasons ; fairly plentiful in all parts
- Gyrophæna affinis*, Mann. In fungi from spring to autumn ; amongst dead leaves in winter ; often abundant ; all localities
- *gentilis*, Er. Fungi ; spring to autumn ; all localities
- *nana*, Payk. Found with the preceding
- *fasciata*, Marsh. Fungi ; not so plentiful as some of the preceding. *Knowle*
- *minima*, Er. In fungi ; in all localities
- *lævipennis*, Kr. In fungi ; spring to autumn ; in dead leaves in winter ; fairly plentiful ; all localities
- *lucidula*, Er. Amongst decaying leaves on margin of pond in a wood at *Knowle*
- *manca*, Er. Local and rather scarce. *Edgehill* (Blatch), *Knowle*
- *strictula*, Er. In polypori on old stumps ; spring to autumn ; abundant where it occurs. Near *Tamworth* (Blatch), *Salford Priors*
- Agaricochara lævicolis*, Kr. Fungi ; on stumps and logs ; all seasons
- Placusa pumilio*, Grav. Under bark and at sap ; all seasons ; local and rather scarce. *Warwick, Knowle* (Blatch), *Solihull*
- *infima*, Er. At sap on cossus trees ; rare. *Knowle* (Blatch), *Solihull*
- Epipeda plana*, Gyll. Under bark of dead trees and logs ; all seasons ; plentiful where it occurs. *Knowle ; Sutton* (Blatch), *Edgbaston*
- Silusa rubiginosa*, Er. At sap on cossus trees ; rare. *Knowle* (Blatch)
- Leptusa fumida*, Er. Under bark ; all seasons ; all localities
- Sipalia ruficollis*, Er. Under bark ; amongst dead leaves in woods and in moss on tree trunks ; all seasons. *Knowle*
- Bolitochara lucida*, Grav. In polypori, on oaks and old stumps ; chiefly in spring and autumn ; local. *Knowle*
- *bella*, Märk. Under bark and in fungi ; scarce ; found occasionally throughout the year. *Knowle* (Blatch), *Salford Priors*

A HISTORY OF WARWICKSHIRE

ALEOCHARINA (*continued*)

Hygronoma dimidiata, Grav. In grass tufts and axils of typha, carex, etc., in bogs and wet places; all seasons; generally abundant where it occurs. *Knowle, Tysoe* (Blatch), *Sutton, Coleshill*

Oligota inflata, Mann. In moss, cut grass, hotbeds, hedge refuse, etc.; all seasons; generally plentiful. *Sutton Park* (Blatch), *Knowle*

— *pusillima*, Grav. Habitat and distribution same as preceding

— *atomaria*, Er. In moss, grass tufts, etc.; all seasons. *Knowle, Berkswell*

— *punctulata*, Heer. In moss, hedge refuse and carrion; all seasons; rather rare. *Knowle; Kenilworth* (Blatch)

Myllæna dubia, Grav. On banks of streams and ponds; in moss and herbage in bogs; all seasons; rather scarce. *Knowle, Sutton* (Blatch), *Coleshill*

— *intermedia*, Er. Margins of ponds, in moss, etc.; found throughout the year, but never in any numbers, in all parts of the district

— *elongata*, Matth. Amongst stones on muddy banks of streams and ponds; all seasons; frequent. *Tysoe; Salford Priors* (Blatch), *Knowle*

— *gracilis*, Matth. In moss, grass tufts, etc.; in boggy places; all seasons; occasionally in numbers. *Coleshill* (Blatch), *Knowle, Sutton Park*

— *infuscata*, Matth. Damp places in wood. *Knowle*

— *brevicornis*, Matth. Moss in wet places, stack refuse, dead leaves in woods; all seasons; generally plentiful

Gymnusa brevicollis, Payk. In sphagnum on margins of streams and pools and in bogs; all seasons; scarce. *Coleshill*

— *variegata*, Kies. In sphagnum, grass tussocks, axils of flags, etc.; in boggy places; all seasons; sometimes plentiful. *Coleshill, Sutton Park*

Deinopsis erosa, Steph. In mud and amongst decaying leaves, etc., on margins of ponds and streams; all seasons. *Tysoe* (Blatch), *Knowle*

TACHYPORINA

Hypocyptus longicornis, Payk. In moss, hedge refuse, etc.; all seasons; abundant everywhere

— *læviusculus*, Mann. In moss, dead leaves, etc.; all seasons. *Sutton Park* (Blatch), *Knowle, Coleshill*

— *ovulum*, Heer. In moss and amongst decaying leaves in woods; rare. *Knowle*, in winter (Blatch)

TACHYPORINA (*continued*)

Hypocyptus seminulum, Er. In polypori, rotten wood, moss and dead leaves. *Salford Priors* (Blatch), *Knowle, Coleshill*

— *punctum*, Mots. In moss and vegetable refuse in boggy places. *Salford Priors* (Blatch), *Coleshill*

— *Conosoma littoreum*, L. Under loose bark, sticks, moss and hedge rubbish; all seasons and in all localities

— *pubescens*, Grav. Habitat and distribution same as preceding

— *immaculatum*, Steph. Amongst dead leaves, in moss and grass tufts in woods; all seasons; scarce. *Knowle, Hampton-in-Arden*

— *lividum*, Er. In moss and hedge refuse, especially in damp places; all seasons; all localities

Tachyporus obtusus, L. In moss and hedge refuse; all seasons; abundant everywhere

— *solutus*, Er. In moss and dead leaves; all seasons. *Knowle* (Blatch), *Sutton Park*

— *pallidus*, Sharp. Moss, dead leaves, etc.; in bogs and marshy places; all seasons; plentiful locally. *Sutton* (Blatch), *Knowle, Coleshill*

— *chrysomelinus*, L. In moss, grass tufts and hedge refuse; abundant at all times and in all places

— *humerosus*, Er. Found with the above; plentiful

— *hypnorum*, F. Moss, hedge refuse, etc.; all seasons; all localities

— *hypnorum* var. *meridionalis*, Fairm. Occurs with the type

— *pusillus*, Grav. In moss, garden refuse, etc.; often abundant in hotbeds; all seasons. *Edgbaston, Knowle*

— *brunneus*, F. Habitat same as the last; abundant everywhere

— *transversalis*, Grav. In bogs and on heaths; all seasons. *Coleshill* (Blatch), *Sutton Park*

Cilea silphoides, L. In hotbeds, moss and hedge refuse; under bark and leaves; all seasons; abundant in all localities

Tachinus flavipes, F. In dung, fungi and decaying wood; scarce. *Sutton Park*

— *humeralis*, Grav. In moss, fungi, dung, dead leaves and sap; abundant at all times and everywhere

— *proximus*, Kr. In fungi and at sap; spring to autumn. *Sutton Park*

— *pallipes*, Grav. In refuse; rare. *Stratford-on-Avon* (Bloom)

INSECTS

TACHYPORINA (*continued*)

- Tachinus rufipes*, L. In moss, hedge refuse, dung, etc.; all seasons and in all localities
- *subterraneus*, L. In moss, fungi, hotbeds, etc.
- *subterraneus* var. *bicolor*, Grav. Found with the type
- *marginellus*, F. In moss, dead leaves, hedge refuse, etc.; found throughout the year in all localities
- *laticollis*, Grav. Habitat same as the preceding; fairly plentiful in all parts of the county
- *elongatus*, Gyll. In moss, hedge refuse, dead leaves in woods and in gravel pits; spring to autumn; rare. *Sutton*
- Megacronus cingulatus*, Mann. In moss, grass tussocks, dead leaves and under bark; all seasons; rather rare. *Sutton Park*
- *analis*, F. Found with the preceding and fairly abundant in all localities
- *inclinans*, Grav. Habitat similar to the last two species. *Knowle*
- Bolitobius lunulatus*, L. In moss and fungi; all seasons; all localities
- *trinotatus*, Er. In moss and fungi; all seasons; all localities
- *exoletus*, Er. In moss, dead leaves, fungi; all seasons; all localities
- *pygmæus*, F. Found with preceding and very abundant
- Mycetoporus lucidus*, Er. In moss, grass tufts, dead leaves and under bark; all seasons; scarce. *Knowle* (Blatch), *Coleshill*
- *splendens*, Marsh. In flood refuse, etc.; rare. *Knowle*
- *punctus*, Gyll. Under bark, dead leaves in woods; in flood refuse and old faggots; all seasons; rare. *Knowle* (Blatch)
- *lepidus*, Grav. In moss, grass tufts, flood refuse and under bark; all seasons; occurs in all localities, but is never abundant
- *longulus*, Mann. In moss, grass tufts and flood refuse; found at all seasons and in all localities
- *angularis*, Rey. On boggy margin of a pool in *Sutton Park* (Blatch)
- *clavicornis*, Steph. In moss, grass tufts and dead leaves; all seasons. *Coleshill*, *Sutton*
- *clavicornis* var. *forticornis*, Fauv. Found with the type. *Coleshill*
- *spendius*, Grav. Habitat same as M.

TACHYPORINA (*continued*)

clavicornis. *Knowle*; *Hampton-in-Arden* (Blatch), *Coleshill*

- Mycetoporus longicornis*, Cr. Amongst sedges, in grass tufts, garden and flood refuse; all seasons; rare. *Knowle*

STAPHYLININA

- Heterothops prævia*, Er. In moss, hotbeds, dead leaves and cut grass; all seasons; rare. *Knowle* (Blatch)
- *dissimilis*, Grav. In moss, hotbeds, cowshed refuse, etc.; all seasons; scarce. *Knowle*
- Quedius microps*, Grav. In rotten wood; rare. *Atherstone* (Power), *Knowle*
- *mesomelinus*, Marsh. In dead wood, moss, hedge refuse, etc.; all seasons; abundant; all localities
- *mesomelinus* var. *faleti*, Thoms. Under bark; all seasons. *Sutton Park* (Blatch), *Knowle*
- *fulgidus*, F. Under bark, bones, refuse, etc.; all seasons. *Knowle*
- *puncticollis*, Thoms. Rotten wood and under bark; rare. *Knowle*
- *cruentus*, Ol. At sap, under bark and in cut grass, etc.; spring to autumn. *Edgbaston* (Blatch), *Salford Priors*, *Knowle*
- *cinctus*, Payk. Vegetable refuse, moss and dung; abundant at all times and in all localities
- *brevis*, Er. In nests of *Formica rufa*; all seasons; very local. *Knowle* (Blatch)
- *fuliginosus*, Grav. In moss, grass roots, vegetable refuse, etc.; throughout the year in all localities
- *tristis*, Grav. Found under similar conditions to the last, but is much less abundant generally
- *molochinus*, Grav. In all kinds of vegetable refuse, etc.; all seasons; all localities
- *picipes*, Mann. In moss, dead leaves, fungi and refuse; all seasons. *Knowle*
- *nigriceps*, Kr. In moss, herbage, dead leaves and under bark. *Knowle* (Blatch), *Hampton-in-Arden*
- *fumatus*, Steph. Amongst decaying leaves in woods, in moss and flood refuse; all seasons; local. *Knowle* (Blatch)
- *maurorufus*, Grav. In moss and grass tussocks in boggy places, etc.; all seasons. *Knowle*
- *suturalis*, Kies. In moss, dead leaves and flood refuse; all seasons; rare. *Leamington*, *Knowle*

A HISTORY OF WARWICKSHIRE

STAPHYLININA (*continued*)

- Quedius scintillans*, Grav. In vegetable refuse, dead leaves and under bark. *Atherstone* (Power), *Knowle*
- *rufipes*, Grav. In moss, dead leaves, flood refuse, etc.; all seasons. *Knowle*
- *attenuatus*, Gyll. In wet moss, flood refuse, dead leaves, etc.; all seasons; *Sutton* (Blatch), *Coleshill*, *Knowle*
- *semiæneus*, Steph. In moss, grass tufts, etc., especially in boggy places. *Knowle*, *Sutton* (Blatch), *Coleshill*
- *boops*, Grav. In moss, grass tufts, vegetable and flood refuse; all seasons; all localities
- Creophilus maxillosus*, L. In decaying vegetable matter, carcasses, etc.; abundant at all times and in all places
- Leistotrophus nebulosus*, F. In moss, dung, fungi and vegetable refuse; not very abundant. *Knowle*
- *murinus*, L. Habitat similar to preceding. *Knowle*
- Staphylinus pubescens*, De G. At sap, in dung, etc. *Sutton* (Blatch), *Knowle*
- *stercorarius*, Ol. In dung, carcasses, etc.; scarce. *Knowle*
- *latebricola*, Grav. In ants' nests (*myrmica*); rare. Mr. Blatch has recorded this species from *Sutton*
- *erythropterus*, L. In moss, grass tussocks and dung and under stones; spring to autumn; scarce. *Sutton*
- *cæsareus*, Ceder. In moss, dung, etc.; spring to autumn; rather scarce. *Small Heath* (Blatch), *Knowle*
- Ocypus olens*, Müll. At grass roots and vegetable refuse, etc.; all seasons; all localities
- *brunnipes*, F. In moss, flood refuse, etc.; all seasons; all localities
- *cupreus*, Rossi. In moss and under stones; all seasons; all localities
- *morio*, Grav. In moss, fungi, grass roots and under stones; all seasons. *Knowle*
- Philonthus splendens*, F. In moss, carcasses, dung, etc.; all seasons; found freely in all localities
- *intermedius*, Boisd. In moss, dung, etc.; rare. *Knowle*
- *laminatus*, Creutz. In moss and dung; all seasons; all localities
- *æneus*, Rossi. In moss, fungi, dung, carcasses, refuse, etc.; all seasons; all localities
- *proximus*, Kr. In moss, carcasses, etc.; all seasons. *Knowle*, and doubtless in most localities

STAPHYLININA (*continued*)

- Philonthus addendus*, Sharp. In moss, dead leaves, etc.; all seasons. *Knowle*
- *carbonarius*, Gyll. In moss, flood refuse, carcasses and under stones; scarce. *Knowle*
- *decorus*, Grav. In moss, etc.; all seasons. *Sutton Park* (Blatch), *Knowle*
- *politus*, F. In moss in pastures; all seasons; all localities
- *lucens*, Er. In moss in pastures; all seasons; generally rare. Several specimens at *Knowle* (Blatch)
- *varius*, Gyll. In moss, hotbeds, etc.; abundant at all times in all localities
- *marginatus*, E. In moss, dung, refuse, etc.; all seasons; all localities
- *albipes*, Grav. In moss, grass, hotbeds, etc.; abundant everywhere at all times
- *umbratilis*, Grav. In moss, grass tufts, lawn clippings, etc.; very scarce. *Earlwood* near *Knowle*
- *cephalotes*, Grav. In hotbeds, refuse, under bones, etc.; all seasons; all localities
- *fimetarius*, Grav. Habitat and distribution same as the preceding
- *sordidus*, Grav. Same as last two
- *ebeninus*, Grav. Found with preceding; plentiful in winter at grass roots in pastures. All localities
- *ebeninus* var. *corruscus*, Grav. One specimen once at *Knowle*
- *debilis*, Grav. In hotbeds, moss, refuse and carrion; all seasons. *Knowle* (Blatch), *Edgbaston*
- *sanguinolentus*, Grav. In moss, grass tufts, etc.; all seasons; generally distributed. *Knowle*, *Tysoe* (Blatch), *Sutton Coldfield*
- *cruentatus*, Gmel. In moss, under bark, etc.; all seasons. *Sutton* (Blatch), *Knowle*
- *longicornis*, Steph. In garden refuse, moss, etc. *Knowle*
- *varians*, Payk. In moss, hedge refuse, dung, bones, etc.; all seasons; all localities
- *agilis*, Grav. In moss, etc., on margins of pools, etc.; all seasons. *Knowle*
- *ventralis*, Grav. In hotbeds, carrion, etc.; all seasons. *Knowle*; *Small Heath* (Blatch), *Edgbaston*
- *discoideus*, Grav. In hotbeds, etc.; all seasons. *Knowle*, *Edgbaston* (Blatch)
- *quisquilarius*, Gyll. Muddy banks of streams, etc. *Knowle* (rare)
- *thermarum*, Aubé. In hotbeds, etc.; all seasons; rare. *Edgbaston* (Blatch,

INSECTS

STAPHYLININA (*continued*)

- one specimen); one specimen at *Knowle* by the author
- Philonthus nigrita*, Nord. In sphagnum; all seasons; local. *Coleshill*
- *micans*, Grav. In moss and grass tufts, especially damp places. *Knowle* (Blatch), *Coleshill*
- *trossulus*, Nord. In moss, hotbeds, etc.; all seasons; abundant everywhere
- *puella*, Nord. In, moss, refuse, carrion, etc.; all seasons; all localities
- Actobius cinerascens*, Grav. In sphagnum, grass tussocks in bogs, on margins of ponds, etc.; all seasons. *Coleshill*; *Sutton* (Blatch), *Knowle*
- *villosulus*, Steph. Banks of streams. *Bromford*
- *procerulus*, Grav. One specimen at *Knowle*
- *prolixus*, Er. In moss, and in shingle and sand on margins of streams. *Knowle*
- Xantholinus fulgidus*, F. In hotbeds, etc.; rare. *Knowle* (Blatch)
- *glabratus*, Grav. In moss, grass tufts, dung, etc.; all seasons; all localities
- *punctulatus*, Payk. In moss, hotbeds, at sap and under bark; all seasons; all localities
- *ochraceus*, Gyll. Habitat and distribution same as last.
- *atratus*, Heer. In moss, gravel pits, under bark and stones, often in ants' nests; all seasons. *Knowle* (Blatch)
- *linearis*, Ol. In hotbeds, etc.; all seasons; abundant everywhere
- *longiventris*, Heer. Occurs with preceding and is equally plentiful
- Leptacinus parumpunctatus*, Gyll. In hotbeds, stack refuse, under bones; all seasons; all localities
- *batychnus*, Gyll. In hotbeds and vegetable refuse; all seasons. *Knowle* (Blatch), *Edgbaston*
- *linearis*, Grav. In hotbeds, etc.; all seasons; an abundant species everywhere
- *formecetorum*, Märk. In nests of the wood ant (*Formica rufa*); all seasons; plentiful locally. *Knowle* (Blatch)
- Baptolinus alternans*, Grav. Under bark and decaying leaves; all seasons; all localities; often abundant
- Othius fulvipennis*, F. In moss, dead leaves, etc., and under bark; all seasons; all localities
- *læviusculus*, Steph. Habitat as in preceding; not so abundant, but found throughout the district

STAPHYLININA (*continued*)

- Othius melanocephalus*, Grav. In moss refuse, grass roots, etc., etc.; abundant at all times and everywhere
- *myrmecophilus*, Kies. In various ants' nests, moss, hotbeds, etc.; as widely distributed and almost as plentiful as the preceding

PÆDERINA

- Lathrobium elongatum*, L. In moss, flood refuse, grass tufts, etc.; abundant at all times and in all places
- *boreale*, Hoch. Found with the preceding
- *fulvipenne*, Grav. Found with the last two
- *rufipenne*, Gyll. In sphagnum, margins of ponds and streams; all seasons; rare. *Knowle*, *Sutton* (Blatch), *Coleshill*
- *brunnipes*, F. In moss, grass tufts, etc.; all seasons; all localities
- *longulum*, Grav. In moss and at roots of grass in damp places; all seasons. *Knowle* (Blatch), *Solihull*
- *punctatum*, Zett. In sphagnum and grass tussocks in bogs; all seasons; rare. *Sutton Park*; *Coleshill* (Blatch)
- *quadratum*, Payk. In moss, etc., in boggy places. One specimen at *Coleshill*
- *terminatum*, Grav. In wet and boggy places and in moss; all seasons; all localities
- *terminatum* var. *immaculatum*, Fowler. Found with the type
- *multipunctum*, Grav. In moss, hedge refuse, under bones, etc.; all seasons; all localities
- Achenium humile*, Nic. In moss and flood refuse, under stones and clods; spring to autumn; rare. *Salford Priors* (Blatch)
- Cryptobium glaberrimum*, Herbst. In sphagnum, grass roots, etc., in boggy places; all seasons. *Knowle*, *Tysoe* (Blatch), *Coleshill* and *Sutton Park*
- Stilicus rufipes*, Germ. In moss, refuse, hotbeds, under bark, etc.; all seasons; all localities
- *orbiculatus*, Er. Habitat and distribution same as last
- *similis*, Er. In moss and hedge rubbish; rare. *Knowle* (Blatch)
- *affinis*, Er. Habitat and distribution same as *S. rufipes*.
- Medon propinquus*, Bris. In hotbeds, stack refuse, etc.; all seasons; scarce. *Knowle*; *Salford Priors* (Blatch)
- *melanocephalus*, F. Found under same

A HISTORY OF WARWICKSHIRE

PÆDERINA (*continued*)

- conditions as preceding; abundant everywhere
- Lithocharis ochracea*, Grav. In moss, hotbeds, etc.; all seasons; abundant everywhere
- Sunius diversus*, Aubé. In hotbeds, cowshed refuse and on river banks; all seasons; scarce. *Knowle, Edgbaston* (Blatch)
- *augustatus*, Payk. In moss and vegetable refuse; all seasons; all localities
- Pæderus littoralis*, Grav. In flood and hedge refuse; spring to autumn. *Stratford-on-Avon* (Bloom), *Alcester*

EVÆSTHETINA

- Evæsthetus scaber*, Thoms. In grass tussocks, etc., in boggy places; all seasons. *Sutton Park* (Blatch), *Knowle*
- *ruficapillus*, Lac. In grass roots in bogs, flood refuse, etc.; all seasons. *Knowle, Tysoe*; *Sutton* (Blatch), *Coleshill*
- *læviusculus*, Mann. In grass tussocks, etc., in marshy places; all seasons; rather rare and local. *Coleshill* (Blatch)

STENINA

- Stenus guttula*, Müll. Banks of streams, canals, ponds, etc. *Salford Priors* (Blatch), *Knowle*
- *bimaculatus*, Gyll. In moss, grass roots, flood refuse, etc.; abundant at all times and in all localities
- *juno*, F. Found with the preceding and equally abundant
- *speculator*, Er. In moss, hedge refuse, etc.; all seasons; abundant everywhere
- *providus* var. *rogeri*, Kr. In moss, grass tufts, and especially in damp places; as widely distributed but not so plentiful as preceding
- *bupthalmus*, Grav. In moss and grass tufts; all seasons. All localities
- *melanopus*, Marsh. In moss, vegetable refuse, and under bones; all seasons; scarce. *Knowle*; *Sutton* (Blatch)
- *incrassatus*, Er. In moss and vegetable refuse; all seasons. *Knowle*
- *melanarius*, Steph. In moss, grass tufts, etc.; all seasons. Recorded from *Coleshill* by Mr. Blatch
- *atratus*, Er. In moss, grass tufts, etc.; all seasons; rare. *Knowle*
- *canaliculatus*, Gyll. In moss and on banks of streams, etc.; all seasons; scarce. *Knowle, Solihull*
- *nitens*, Steph. One specimen, *Knowle*, 1901

STENINA (*continued*)

- Stenus pusillus*, Er. In moss, grass roots and vegetable refuse; all seasons. *Knowle*
- *exiguus*, Er. In moss and grass roots in damp places; found throughout the year, but scarce. Recorded by Mr. Blatch from *Knowle*
- *circularis*, Grav. In wet moss and flood refuse; rare. *Knowle*
- *declaratus*, Er. In moss, grass roots, hedge refuse, hotbeds, etc.; all seasons. Occurs freely in all localities
- *crassus*, Steph. In hotbeds, grass tufts and moss; all seasons. *Knowle* (Blatch)
- *nigritulus*, Gyll. In moss, grass roots, etc., in marshy places. *Knowle* (Blatch)
- *brunnipes*, Steph. In moss, hotbeds, hedge refuse, etc.; abundant in all places at all times
- *subæneus*, Er. Moss, etc., in damp places. *Knowle* (Blatch)
- *ossium*, Steph. In moss on banks of rivers, ponds and wet places; all seasons; rather scarce. *Knowle*
- *palustris*, Er. In boggy places; rare. *Knowle*
- *impressus*, Germ. In moss, grass roots, leaves, etc.; all seasons; abundant in all localities
- *ærosus*, Er. In moss, grass tussocks and dead leaves; all seasons; rare. *Knowle*; *Sutton* (Blatch)
- *pallipes*, Grav. Moss in wet places; all seasons. *Tysoe* (Blatch), *Knowle*
- *flavipes*, Steph. In moss, hedge refuse, etc.; all seasons; all localities
- *pubescens*, Steph. In moss, grass tufts, flood refuse, etc.; all season; local. *Salford Priors*, *Sutton* (Blatch), *Knowle*, *Coleshill*
- *binotatus*, Linn. In moss, etc., in boggy places; all seasons. *Knowle*; *Sutton Park* (Blatch), *Coleshill*
- *pallitarsus*, Steph. In sphagnum, grass tussocks, etc., in wet places; all seasons; local. *Knowle* (Blatch), *Sutton Park*
- *pallitarsus* var. *niveus*, Fauv. Found with the type; rare. *Knowle*
- *bifoveolatus*, Gyll. In moss and grass tufts; all seasons. *Sutton Park* (Blatch), *Knowle*
- *nitidiusculus*, Steph. In moss and roots of herbage in bogs and wet places; all seasons; all localities
- *picipennis*, Er. In moss, grass tufts, etc., in boggy places; all seasons. *Sutton* (Blatch), *Knowle*

INSECTS

STENINA (*continued*)

- Stenus picipes*, Steph. In moss, hedge refuse, etc.; all seasons. *Salford Priors, Knowle* (Blatch)
- *cicindeloides*, Grav. In moss, etc., in damp places; all seasons and in all localities
- *similis*, Herbst. In moss, stack refuse, etc.; all seasons and all localities
- *solutus*, Er. In moss, etc., in boggy places; all seasons. *Knowle* (Blatch), *Sutton Park*
- *tarsalis*, Linn. In moss, refuse, hotbeds, etc. Abundant at all times and in all localities
- *paganus*, Er. Habitat and distribution same as the preceding
- *latifrons*, Er. In moss and grass tufts; all seasons. *Sutton; Coleshill* (Blatch), *Knowle*

OXYPORINA

- *Oxyporus rufus*, L. In fungi; spring to autumn; local. College grounds, *Oscott* (Perry), *Sutton Coldfield*

OXYTELINA

- *Bledius subterraneus*, Er. In banks of rivers and brooks; spring to autumn; abundant locally. *Salford Priors*
- Platystethus arenarius*, Fourc. In moss, hotbeds, dung, carrion, etc.; all seasons; all localities
- *cornutus*, Gyll. In banks of streams and ponds; all seasons. *Knowle* (Blatch)
- *capito*, Heer. In stack refuse. *Knowle*
- *nodifrons*, Sahl. On river banks, etc.; rare. *Knowle*
- *nitens*, Sahl. In flood refuse, under bark, etc.; rare. *Salford Priors*
- Oxytelus rugosus*, Grav. In moss, hedge refuse, grass tufts, etc.; extremely abundant everywhere
- *rugosus* var. *terrestris*, Lac. Occurs with the type but less common. *Knowle*
- *insecatus*, Grav. Habitats similar to those of *O. rugosus*; occurs at all times in all localities
- *fulvipes*, Er. In grass tussocks in bogs and on margins of ponds, etc.; all seasons. *Sutton* (Blatch), *Knowle*
- *sculptus*, Grav. In moss, dung and vegetable refuse; all seasons; all localities
- *laqueatus*, Marsh. In same habitats and localities as last
- *piceus*, L. In dung, flood and vegetable refuse. *Knowle*
- *inustus*, Grav. In moss, grass tufts, etc.; all seasons. *Knowle, Sutton* (Blatch), *Solihull, Coleshill*

OXYTELINA (*continued*)

- Oxytelus sculpturatus*, Grav. In moss, fungi, grass tufts and at sap; in all localities
- *nitidulus*, Grav. In similar habitats and localities as the last
- *complanatus*, Er. Habitats and localities same as the preceding
- *clypeonitens*, Pand. In moss and under dead moles; all seasons. *Knowle* (Blatch)
- *tetracarinatus*, Block. Found in similar habitats to *O. sculpturatus* and allied species, and equally abundant
- *fairmairei*, Pand. In moss and hedge refuse in damp ditches and on hedge banks. *Coventry; Knowle* (Blatch)
- Haploderus coelatus*, Grav. In moss, dung, vegetable refuse and carrion; all seasons; all localities
- Trogophloeus arcuatus*, Steph. Banks of rivers and ponds, on submerged logs and in flood refuse; all seasons; rare. *Knowle*
- *bilineatus*, Steph. In moss, hotbeds, flood refuse and under bones; all seasons; all localities
- *rivularis*, Mots. Habitat and distribution same as the preceding
- *elongatulus*, Er. Found with the preceding
- *fuliginosus*, Grav. Banks of rivers; spring to autumn. *Salford Priors*
- *cortacinus*, Grav. In moss, refuse and under bark; all seasons. *Knowle* (Blatch), *Solihull, Salford Priors*
- *pusillus*, Grav. In flood refuse, on banks of streams. *Knowle* (Blatch)
- *tenellus*, Er. In wet places, hotbeds, cowshed refuse and under bones; all seasons. *Small Heath, Knowle* (Blatch)
- Syntomium æneum*, Müll. In moss and hedge refuse, both in wet, dry and sandy places; all seasons; all midland localities
- Coprophilus striatulus*, F. Amongst bones and flood refuse, etc.; all seasons; occurs throughout the district, sometimes abundantly

HOMALIINA

- Lesteva longelytrata*, Goeze. In moss and herbage in damp places; all seasons; abundant everywhere
- *pubescens*, Mann. In moss and herbage in wet places; all seasons; not so abundant as the preceding
- *sicula*, Er. Habitats and distribution same as the preceding

A HISTORY OF WARWICKSHIRE

HOMALIINA (*continued*)

- Acidota crenata*, F. Amongst dead leaves, under pines, in sphagnum. *Sutton* (Blatch), *Coleshill*
- *cruentata*, Mann. Under dry cowdung in winter. *Sutton Park* (Blatch)
- Olophrum piceum*, Gyll. In moss, hedge rubbish, flood refuse, etc.; all seasons; abundant in all localities
- Lathrimæum atrocephalum*, Gyll. In moss, hedge rubbish, grass tufts, etc., in all localities
- *unicolor*, Steph. Found with the preceding and equally abundant
- Deliphrum tectum*, Payk. In moss, grass tufts, dead leaves in woods, fungi, and under bones. *Knowle*; *Sutton* (Blatch)
- Coryphium angusticolle*, Steph. In moss, fungi, under bark and at sap; all seasons. *Knowle*; *Sutton* (Blatch), *Solihull*
- Homalium rivulare*, Payk. In moss, vegetable refuse, carrion, sap, etc.; all seasons; abundant everywhere
- *læviusculum*, Gyll. In moss and fungi; all seasons. *Sutton* (Blatch), *Knowle*
- *septentrionis*, Thoms. In moss, hotbeds and dead moles; all seasons. *Knowle* (Blatch). (*E.M.M.* xxv. 457)
- *riparium*, Thoms. In fungi; rare. *Knowle* (Blatch)
- *allardi*, Fairm. Under bones and dead moles; spring to autumn. *Small Heath* (Blatch), *Knowle*
- *exiguum*, Gyll. In moss, grass tufts and carrion; all seasons. *Knowle*
- *oxycanthæ*, Grav. In moss, dead leaves, carrion, etc. *Knowle* (Blatch)
- *excavatum*, Steph. In hotbeds, straw refuse, carrion and amongst bones; all seasons; all localities
- *cæsum*, Grav. Found with the preceding in the same localities
- *pusillum*, Grav. Under bark of fir and other trees; all seasons; abundant in all parts of the district
- *punctipenne*, Thoms. Under bark of various trees, but principally decaying oaks; all seasons; all localities
- *rufipes*, Fourc. In flowers and vegetable refuse; all seasons; all localities
- *vile*, Er. Under bark of trees; very abundant at all times
- *vile* var. *heeri*, Rey. Found at *Knowle* (Blatch)
- *brevicorne*, Er. Specimens found by Mr. Blatch at *Knowle* and *Solihull* seem referable to this species

HOMALIINA (*continued*)

- Homalium gracilicorne*, Fairm. Under bark; all seasons. *Knowle* (Blatch), *Sutton Park*
- *iopterum*, Steph. Under bark and in flowers; all seasons; not common, but generally distributed throughout the district
- *planum*, Payk. Under bark and at sap; all seasons. *Knowle*
- *concinnum*, Marsh. In cowshed refuse, stack bottoms, hedge refuse and often in granaries; all seasons; all localities
- *deplanatum*, Gyll. In stack refuse; all seasons. *Knowle* (Blatch) *Coleshill*
- *striatum*, Grav. In moss, amongst dead leaves, etc.; all seasons. *Knowle* (Blatch)
- Hapalaræa pygmæa*, Gyll. In fungi and under bark. *Knowle*
- Eusphalerum primulæ*, Steph. In primroses; spring. *Knowle*
- Anthobium minutum*, F. In flowers; spring and summer. *Knowle* (Blatch)
- *ophthalmicum*, Payk. In flowers; spring and summer; abundant in all localities.

PROTEININA

- Proteinus ovalis*, Steph. In fungi, moss, grass tufts, carrion, etc.; all seasons; abundant everywhere
- *brachypterus*, F. In same habitats and localities as the last
- *macropterus*, Gyll. In wet places and under dead leaves; all seasons. *Knowle*
- *atomarius*, Er. In fungi, moss, dead leaves in woods, etc.; all seasons. *Knowle* (Blatch)
- Megarthrus denticollis*, Beck. In moss, hotbeds, carrion, bones, under bark, etc.; all seasons; all localities
- *affinis*, Mill. In hotbeds and under bones and vegetable refuse; all seasons. *Small Heath*; *Edgbaston* (Blatch), *Knowle*
- *depressus*, Lac. Found under similar conditions to preceding and in all localities
- *sinuatocollis*, Lac. In habitat same as the previous species but less abundant; all localities
- Phlæobium clypeatum*, Müll. In moss, grass tufts, hedge refuse, etc. Abundant at all times in all localities

PHLÆOCHARINA

- Phlæocharis subtilissima*, Mann. Under bark; all seasons. *Knowle* (Blatch)

INSECTS

PHLÆOCHARINA (*continued*)

Pseudopsis sulcata, Newm. In grass roots, etc. *Knowle* (Blatch)

PSELAPHIDÆ

PSELAPHINA

Pselaphus heisii, Herbst. In moss, grass tufts and vegetable refuse; all seasons; plentiful in all localities

Tychus niger, Payk. In moss, grass tufts, hotbeds and hedge refuse; abundant at all times in all localities

Bythinus puncticollis, Denny. In moss, dead leaves and hedge refuse; all seasons. *Salford Priors*; *Sutton* (Blatch), *Knowle*, *Coleshill*

— *validus*, Aubé. Habitat and distribution same to the preceding; all seasons

— *bulbifer*, Reich. Found under similar conditions to the preceding and in the same localities

— *curtisi*, Denny. Habitat and distribution same as the last

— *securiger*, Reich. In moss and dead leaves, generally in drier places than the preceding insects; rare in midlands. *Knowle*

— *burrelli*, Denny. Amongst moss in hedge banks, in damp places; all seasons. *Knowle* (Blatch)

Bryaxis fossulata, Reich. Abundant in moss, grass tufts, hedge refuse, etc.; at all seasons throughout the midlands

— *hæmatica*, Reich. In moss and flood refuse, sometimes under bark; all seasons. *Knowle* (Blatch), *Salford Priors*

— *juncorum*, Leach. At roots of common rush, in moss and hedge refuse; abundant at all times and in all localities

— *impressa*, Panz. Grass tussocks in bogs and on margins of ponds; all seasons. *Coleshill* (abundant)

Bibloporus bicolor, Denny. Under bark of various trees, especially oak and birch; all seasons. *Knowle*; *Sutton Park* (Blatch)

Euplectus punctatus, Muls. Under bark of oak and birch trees and logs; all seasons. *Salford Priors* (Blatch), *Knowle*

— *karsteni*, Reich. Under bark and in hotbeds; all seasons. *Knowle*; *Sutton* (Blatch)

— *signatus*, Reich. In hotbeds, decaying vegetable matter, etc.; all seasons; generally abundant; found throughout midlands

PSELAPHINA (*continued*)

Euplectus nanus, Reich. Mostly found under bark and occasionally in hotbeds; all seasons. *Edgbaston*, *Knowle*, *Sutton Park*

— *sanguineus*, Denny. In hotbeds and vegetable refuse; all seasons; abundant in all localities

— *piceus*, Mots. Under bark of various trees, mostly oaks and birches; also in hotbeds; most parts of the midlands, often in great abundance

SCYDMÆNIDÆ

Neuraphes elongatulus, Müll. In moss, grass tufts, dead leaves, flood refuse and under bark; all seasons; found sparingly throughout the district

— *sparshalli*, Denny. Amongst decaying leaves in hedges, especially beneath holly bushes. *Knowle*; *Salford Priors* (Blatch)

Scydmaenus scutellaris, Müll. In moss, hedge refuse and under stones. A scarce species to be found at *Knowle*

— *collaris*, Müll. In moss, under bark, etc.; all seasons; most abundant species of the genus, occurring everywhere

— *exilis*, Er. Under bark. Generally a rare species, which however occurs in many midland localities. *Sutton Coldfield* (Blatch), *Knowle*, *Coleshill*

Euconnus hirticollis, Ill. Moss in boggy places; all seasons. *Sutton Park*

Eumicrus tarsatus, Müll. In hotbeds, vegetable refuse, moss and under stones; all seasons; plentiful throughout the district

Eutheia scydmaenoides, Steph. In hotbeds, moss and flood refuse; all seasons. *Knowle* (abundant)

— *schaumi*, Kies. In hotbeds, under bones and bark. *Small Heath* (Blatch), *Knowle*

Cephennium thoracicum, Müll. In moss, especially in woods; all seasons. *Knowle* (Blatch), *Salford Priors*

SILPHIDÆ

CLAMBINA

Calyptomerus dubius, Marsh. On damp walls of house at *Knowle* (Blatch); all seasons

Clambus pubescens, Redt. In hotbeds and vegetable refuse; all seasons; in all localities

— *armadillo*, De G. In bogs, flood refuse and under bark and bones; all

A HISTORY OF WARWICKSHIRE

CLAMBINA (*continued*)

seasons. *Knowle*; *Sutton* (Blatch), *Salford Priors*

Clambus minutus, Sturm. In grass tufts and moss, and by sweeping. *Knowle*

ANISOTOMINA

Agathidium nigripenne, Kug. Under loose bark, especially when affected by fungi; all seasons. *Sutton Park* (Blatch), *Knowle*

— *atrum*, Payk. At grass roots and amongst dead leaves and woods and bogs, in fungi and under bark; all seasons. *Sutton Park*, *Hampton-in-Arden*; *Coleshill* (Blatch), *Knowle*

— *seminulum*, L. In moss, grass tufts, dead leaves and rotten wood; all seasons. *Knowle*

— *lævigatum*, Er. In moss, hedge refuse and under stones; all seasons. *Knowle*; *Acocks Green* (Blatch)

— *varians*, Beck. Under bark, in moss and by sweeping. *Knowle*, in numbers under fungoid bark of beech (Blatch)

— *convexum*, Sharp. In moss and amongst dead leaves in woods; all seasons. *Knowle* (Blatch), *Hampton-in-Arden*

— *rotundatum*, Gyll. Under bark; all seasons. *Knowle*

— *nigrinum*, Sturm. Amongst chips of newly felled timber, under bark and amongst moss; all seasons. *Knowle*

— *nigrinum* var. *staphyleum*, Gyll. *Knowle* (Blatch)

Amphycillius globus, F. In moss, hedge refuse, dead leaves in woods and at sap. *Knowle*

— *globus* var. *rufescentum*, Sturm. Found with the type frequently in abundance

Liodes humeralis, Kug. In fungi, especially on old trees and logs and in moss; all seasons. *Salford Priors*, *Knowle* (Blatch), *Sutton Park*

— *orbicularis*, Herbst. In fungi and under bark of decayed trees; all seasons. *Sutton Park*

Cyrtusa minuta, Ahr. On windows or waiting-room at *Knowle Station* in evening; spring to autumn (Blatch)

— *pauilla*, Schmidt. Same locality as preceding (Blatch)

Anisotoma cinnamomea, Er. By sweeping in *Sutton Park* (J. F. Perry)

— *dubia*, Kug. By sweeping; spring to autumn. *Knowle*

— *badia*, Sturm. *Knowle* (Blatch)

— *punctulata*, Gyll. By sweeping. *Knowle* (Blatch)

ANISOTOMINA (*continued*)

Anisotoma calcarata, Er. In moss, amongst dead leaves and hedge refuse, etc.; found all the year round and in all parts of the district

Colenis dentipes, Gyll. In fungi and dead moles; spring to autumn. *Knowle* (Blatch)

SILPHINA

Necrophorus humator, F. In carcases and dung; spring to autumn; abundant everywhere

— *mortuorum*, F. In carcases and fungi and at sap; spring to autumn; all localities

— *ruspator*, Er. In carcases, dung and under bones; spring to autumn; all parts of the district

— *ruspator* var. *microcephalus*, Thoms. Found with the type

Necrodes littoralis, L. In carrion; spring to autumn. *Sutton*; *Knowle* (Blatch), *Coleshill*

Silpha tristis, Ill. In moss and under stones; all seasons. *Sutton Park* (Blatch), *Knowle*

— *nigrita*, Creutz. In carrion and under stones; all seasons. *Small Heath* (Blatch), *Knowle*

— *quadripunctata*, L. Feeds on Lepidopterous larvæ, especially such as affect oak trees; in profusion in May and June. *Sutton Park* (Blatch), *Knowle*

— *opaca*, L. In carrion and moss, under bark and stones; all seasons. *Knowle*

— *thoracica*, L. In carrion and fungi; spring to autumn; occurs in all midland localities

— *rugosa*, L. In carrion. This is the most abundant species of the genus and occurs everywhere

— *sinuata*, F. Found under same conditions and in same localities as preceding, but is less abundant

— *atrata*, L. In moss, rotten stumps, under loose bark and occasionally in carrion; all seasons; all localities

— *atrata* var. *brunnea*, Herbst. Of frequent occurrence with the type

CHOLEVINA

Choleva angustata, F. In moss, hedge refuse, dead leaves in woods, grass tufts, etc.; all seasons; all localities, but not abundant

— *cisteloides*, Fröhl. In moss, vegetable refuse, gravel pits and under bones; all seasons; throughout the district

— *intermedia*, Kr. In moss, dead leaves in woods; all seasons. *Knowle*

INSECTS

CHOLEVINA (continued)

Choleva spadicea, Sturm. In moss, grass tufts and dead leaves in woods.

Knowle

— *agilis*, Ill. In moss, grass tufts and dead leaves in woods; all seasons.

Knowle (Blatch)

— *velox*, Spence. In moss, grass tufts, hedge refuse and under bones; all seasons and in all localities

— *wilkini*, Spence. Found in the same habitats and localities as the preceding, but less abundantly

— *anisotomoides*, Spence. In moss, dead leaves, hedge refuse; all seasons.

Knowle (Blatch), *Stratford-on-Avon*

— *fusca*, Panz. In refuse, dead leaves, moss and carrion; all seasons. *Small*

Heath (Blatch), *Knowle*

— *nigricans*, Spence. In moss, dead leaves, refuse, carcasses, etc.; all seasons; abundant in all localities

— *coracina*, Kell. In carcasses, especially dry ones; all seasons. *Knowle*, *Coleshill*

— *morio*, F. In refuse, carrion and fungi; all seasons. *Coleshill*, *Sutton*; *Alcester*

(Blatch), *Knowle*

— *grandicollis*, Er. In refuse, dead moles and birds, and in fungi; all seasons; not common, but generally distributed

— *nigrita*, Er. In refuse, moss, fungi, carrion, etc.; all seasons; all localities

— *tristis*, Panz. Habitats and distribution same as preceding

— *kirbyi*, Spence. In carcasses and vegetable refuse; all seasons. *Knowle*, *Small Heath*; *Sutton* (Blatch), *Edgbaston*

— *chrysomeloides*, Panz. Vegetable refuse, moss, grass tufts in bogs, carrion; all seasons; abundant everywhere

— *fumata*, Spence. Found under similar conditions as preceding, and equally abundant

— *watsoni*, Spence. Habitats and distribution as preceding

Ptomaphagus sericeus, F. In moss, refuse, etc.; all seasons; plentiful everywhere

Colon serripes, Sahl. The late Mr. Blatch took what he believed to be this species on the windows of the waiting-room at *Knowle Railway Station*

— *dentipes*, Sahl. In stack refuse, etc.

Knowle

— *dentipes* var. *zebei*, Kr. *Knowle* (Blatch)

— *brunneum*, Latr. In moss and stack refuse; all seasons. *Knowle*

CHOLEVINA (continued)

Colon appendiculatum, Sahl. In refuse.

Knowle

HISTERIDÆ

Hister unicolor, L. In carrion, fungi, hotbeds, at sap, etc.; all seasons.

Knowle (Blatch)

— *merdarius*, Hoff. In hotbeds, carrion, moss, etc.; all seasons. *Knowle*

— *cadaverinus*, Hoff. In carrion, dung, etc.; all seasons. *Knowle*, *Coleshill*

— *succicola*, Thoms. In carrion, fungi and at sap; spring to autumn.

Knowle (Blatch), *Solihull*

— *purpurascens*, Herbst. In moss, lawn clippings, etc.; all seasons. *Knowle*

— *neglectus*, Germ. In hotbeds and carcasses; all seasons. *Knowle* (Blatch)

— *carbonarius*, Ill. In carrion, dung, etc.; all seasons. *Sutton* (Blatch), *Knowle*

— *12-striatus*, Schr. In garden refuse, haystacks, hotbeds, dung, carrion; all seasons. *Knowle* (Blatch)

— *bimaculatus*, L. In hotbeds, stack refuse, carrion, etc.; all seasons; in abundance in all midland localities

Carcinops minima, Aubé. In fungi on ash logs and in flood refuse. *Salford*

Priors; *Knowle* (Blatch)

Dendrophilus pygmaeus, L. In nests of *Formica rufa*; all seasons. *Knowle*

(Blatch)

Myrmetes piceus, Payk. In nests of *Formica rufa*; all seasons. *Knowle* (Blatch)

Gnathoncus nannetensis, Mars. In dead birds. *Knowle*

— *punctulatus*, Thoms. In dead birds, etc. *Knowle* (Blatch)

Saprinus nitidulus, Payk. In carrion, dung, hotbeds, etc.; all seasons; all places

— *æneus*, F. In carcasses, dung, etc.

Knowle

Plegaderus dissectus, Er. Under bark of decaying logs; all seasons. *Salford*

Priors

Abraeus globosus, Hoff. In rotten wood, fungi, etc.; all seasons. *Salford*

Priors; *Sutton* (Blatch), *Knowle*

— *granulum*, Er. In rotten wood and under bark; all seasons. *Salford*

Priors

Acritus minutus, Herbst. In hotbeds and vegetable refuse; all seasons; abundant in all localities

— *nigricornis*, Hoff. In hotbeds, fungi, etc.; all seasons. *Knowle* (Blatch)

Onthophilus striatus, F. In dung and vegetable refuse; all seasons; abundant in all localities

A HISTORY OF WARWICKSHIRE

SCAPHIDIIDÆ

- Scaphidium* 4-maculatum, Ol. Under bark, in rotten wood and fungi; all seasons. *Knowle*
Scaphisoma agaricinum, L. In fungi, on stumps and under bark; all seasons; plentiful in all localities
 — *boleti*, Panz. In fungi, dead leaves in wood, moss, under bark and on sappy stumps. *Knowle*

TRICHOPTERYGIDÆ

- Pteryx* suturalis, Heer. Under oak and birch bark; all seasons. *Knowle*; *Sutton* (Blatch), *Salford Priors*
Ptinella denticollis, Fairm. Under oak and birch bark, etc.; all seasons; abundant in all parts of midlands
 — *aptera*, Guer. Under bark of oak, birch and ash, etc.; all seasons. *Knowle*, *Salford Priors* (Blatch)
 — *angustula*, Gill. Under bark of oak, birch, ash, etc.; all seasons. *Sutton*; *Salford Priors* (Blatch), *Knowle*
Trichopteryx thoracica, Matth. In hotbeds, grass tufts, moss and refuse; all seasons. *Knowle* (abundant)
 — *atomaria*, De G. In stack refuse, hedge refuse, hotbeds, etc.; all seasons; abundant throughout the district
 — *anthracina*, Matth. In hotbeds and under bones; all seasons. *Small Heath*, *Edgbaston*; *Knowle* (Blatch)
 — *grandicollis*, Mann. In dung, moss, carrion and under bark; all seasons; all localities
 — *lata*, Mots. In moss, grass tufts, hotbeds, etc. Abundant at all times throughout the district
 — *cantiana*, Matth. In moss on hedge banks and grass tufts; all seasons. *Knowle* (Blatch)
 — *fascicularis*, Herbst. Grass tufts, hedge refuse, etc.; all seasons. *Knowle*, *Coleshill*; *Sutton* (Blatch)
 — *sericans*, Heer. In hotbeds, moss, grass tufts, etc.; all seasons. *Edgbaston*; *Knowle* (Blatch)
 — *bovina*, Mots. In flood refuse, cowsheds, hotbeds and dung; all seasons
 — *brevipennis*, Er. *Knowle* (Blatch), *Edgbaston*
 — *longula*, Matth. In hotbeds, cowsheds, moss, etc.; all seasons. *Knowle*
 — *picornis*, Mann. Amongst bones and in rotten wood; all seasons. *Knowle* (Blatch)

- Trichopteryx* montandonii, All. Hotbeds, moss, cowsheds and under bark; all seasons. *Knowle*
 — *rivularis*, All. Hotbeds; autumn. *Knowle*
 — *chevrolati*, All. In mushroom beds, hotbeds, etc.; all seasons. *Knowle* (Blatch)
 — *dispar*, Matth. In hotbeds and moss; all seasons. *Knowle*
Nephanes titan, Newm. In cut grass, hotbeds, etc.; all seasons. *Knowle*
Ptilium kunzei, Heer. In hotbeds, moss, dry rabbit skins, etc.; all seasons. *Knowle* (Blatch), *Edgbaston*
 — *spencei*, All. In hotbeds, moss, rotten fungi, carrion and under bark; all seasons. *Edgbaston*, *Knowle*
 — *affine*, Er. In moss; winter. *Knowle*
 — *exaratum*, All. In vegetable refuse, moss, dead moles and dry rabbit skins; all seasons. *Knowle*
 — *foveolatum*, All. In hotbeds and moss; all seasons; *Knowle*
Millidium trisulcatum, Aubé. In hotbeds, moss, etc.; all seasons. *Knowle*
Ptenidium nitidum, Heer. In moss, hotbeds, grass tufts, hedge refuse, etc.; all seasons; abundant in all localities
 — *evanescens*, Marsh. In vegetable refuse, moss, hotbeds, etc.; all seasons; abundant everywhere
 — *formecetorum*, Er. In ants' nests, refuse, etc.; all seasons. *Knowle*, *Sutton Park* (Blatch), *Edgbaston*

CORYLOPHIDÆ

- Orthoperus* atomus, Gyll. In vegetable and stack refuse, moss, etc.; on damp walls and under bark. *Knowle*
Corylophus cassidioides, Marsh. In flood refuse; all seasons. *Salford Priors* (Blatch)
Sacium pusillum, Gyll. Said to be found under bark. One specimen on an orange which had been lying some time in a cupboard in the late Mr. W. G. Blatch's house at *Small Heath*. Found by his son, Mr. F. J. Blatch, Christmas, 1886. This is probably the only British specimen existing

COCCINELLIDÆ

- Subcoccinella* 24-punctata, L. In flood refuse. *Salford Priors* (Blatch)
Anisosticta 19-punctata, L. In axils of water plants and amongst vegetable refuse in bogs and marshy places;

INSECTS

- all seasons. *Knowle, Sutton Park* (Blatch), *Coleshill*
- Adalia oblitterata*, L. Under bark; all seasons. *Coleshill, Sutton* (Blatch), *Knowle*
- *bipunctata*, L. On various trees and plants and under bark, amongst dead leaves and in moss; all seasons; abundant in all localities
- Mysia oblongoguttata*, L. On pine trees, in moss and dead leaves; all seasons. *Knowle, Coleshill, Sutton*
- Anatis ocellata*, L. On pine trees, in moss and dead leaves; all seasons. *Coleshill; Sutton* (Blatch), *Knowle*
- Coccinella 10-punctata*, L. On flowers and trees and under bark; all seasons; abundant in all localities
- *hieroglyphica*, L. Under bark and by beating various trees; all seasons. *Sutton Park* (Blatch), *Knowle*
- *11-punctata*, L. By beating and sweeping trees and herbage, and amongst dead leaves in woods, etc.; all seasons; found in all midland localities
- *7-punctata*, L. On various trees and plants, in moss, etc.; all seasons; abundant everywhere
- Halyzia 14-guttata*, L. On various trees and flowers, and in grass tufts and moss; all seasons; plentiful everywhere
- *18-guttata*, L. Found in same localities and under same conditions as preceding, but much less commonly
- *conglobata*, L. On trees and herbage and in moss and dead leaves; all seasons; abundant in all localities
- *22-punctata*, L. On trees and low herbage, in moss and dead leaves; all seasons; abundant everywhere
- Hyperaspis reppensis*, Herbst. On trees and herbage in woods; spring to autumn. *Knowle*
- Scymnus nigrinus*, Kug. By sweeping ling, etc., in and near fir plantations; in moss, etc., in woods. *Knowle* (Blatch)
- *pygmæus*, Fourc. By sweeping and in moss; all seasons. *Coleshill, Tysoe* (Blatch), *Knowle*
- *frontalis*, F. In moss and grass tufts, and by sweeping; all seasons. *Knowle* (Blatch)
- *suturalis*, Thunb. In moss and by sweeping; all seasons. *Knowle*
- *testaceus*, Mots. In moss and grass roots. *Tysoe*
- Scymnus testaceus* var. *scutellaris*, Muls. *Knowle* (Blatch)
- *hæmorrhoidalis*, Herbst. In moss and fungi, and by sweeping in boggy places; all seasons. *Alcester* (Blatch), *Knowle*
- *capitatus*, F. In moss, dead leaves and by sweeping; all seasons. *Coleshill, Sutton* (Blatch), *Knowle*
- *ater*, Kug. *Knowle*
- Chilocorus similis*, Rossi. On birch trees; spring to autumn. *Knowle* (Blatch)
- Exochomus 4-pustulatus*, L. On ling and other low herbage, and in sphagnum; all seasons. *Coleshill* (Blatch), *Knowle*
- Rhizobius litura*, F. At grass roots, in moss, hedge refuse, etc.; all seasons; plentiful in all localities
- Coccidula rufa*, Herbst. In axils of water plants, in grass tufts, moss and refuse in damp places; all seasons; abundant everywhere

ENDOMYCHIDÆ

- Mycetæa hirta*, Marsh. Amongst old bones, in hotbeds, cowsheds, stack and flood refuse, and in cellars (on wine corks, etc.); all seasons; all localities
- Endomychus coccineus*, L. Under bark and in moss; all seasons. *Salford Priors* (Blatch)

EROTYLIDÆ

- Dacne rufifrons*, F. In fungi on trees and stumps; all seasons. *Salford Priors* (Blatch), *Knowle*
- *humeralis*, F. In fungi on trees and stumps; all seasons. *Knowle* (Blatch)

PHALACRIDÆ

- Phalacrus corruscus*, Payk. On flowers and herbage and amongst decaying leaves; all seasons. *Knowle*
- *caricis*, Sturm. Amongst reeds and garden refuse; all seasons. *Coleshill* (Blatch), *Knowle*
- Olibrus æneus*, F. On flowers, especially the chamomile tribe, in moss and dead leaves; all seasons. *Knowle* (Blatch), *Coleshill*
- Eustilbus testaceus*, Panz. On flowers, in moss, dead leaves and flood refuse; all seasons. *Knowle* and *Solihull*

MICROPEPLIDÆ

- Micropeplus porcatus*, Payk. In moss, hotbeds, stack refuse, gravel pits and banks of streams; all seasons. *Sal-*

A HISTORY OF WARWICKSHIRE

ford Priors, Kenilworth (Blatch), Solihull, Knowle

- Micropeplus staphylinoides*, Marsh. In moss, stack refuse, fungi; all seasons; found throughout the district, but less sparingly than preceding
- *margaritæ*, Duv. Found under similar conditions to the two preceding, and certainly much more plentiful than either
- *tesserula*, Curt. At sap, in vegetable refuse and by sweeping. *Knowle*, sappy stumps of newly felled oaks (Blatch)

NITIDULIDÆ

- Brachypterus pubescens*, Er. On nettles and other low plants; all seasons; abundant everywhere
- *urticæ*, F. Found under same conditions and in same localities as the preceding
- Cercus pedicularis*, L. In marshy places, in folds of *Typha*, moss, osier beds, on water plants, very fond of *Spiræa ulmaria*. *Coleshill, Sutton (Blatch), Knowle*
- *bipustulatus*, Payk. In damp meadows and marshy places; all seasons. *Sutton; Leamington (Blatch), Knowle, Salford Priors*
- *rufilabris*, Latr. Habitat and distribution same as preceding
- Carpophilus hemipterus*, L. In dried fruits; also taken in *Cossus* burrows. *Small Heath (Blatch)*
- Epuræa diffusa*, Bris. At sap and in *Cossus* burrows in oak trees; spring to autumn. *Solihull, Knowle*
- *æstiva*, L. In flowers and (in winter) amongst dead leaves, etc.; all seasons. *Hampton-in-Arden; Coleshill (Blatch), Solihull, Knowle*
- *melina*, Er. By beating and sweeping, on *Umbelliferæ* and at sap; spring to autumn. *Knowle*
- *oblonga*, Herbst. On flowers, in fungi, under bark and in *Cossus* burrows; all seasons. *Sutton (Blatch), Knowle*
- *florea*, Er. On flowers, at sap, under bark and in moss; all seasons; very abundant in all localities
- *deleta*, Er. In fungi, rotten logs, chips, moss, leaves and under bark; all seasons; plentiful everywhere
- *obsoleta*, F. In moss and fungi, at sap, in *Cossus* burrows and under bark; all seasons; all localities
- *pusilla*, Er. At sap and under bark;

all seasons. *Sutton Park (Blatch), Knowle, Solihull*

- Epuræa angustula*, Er. Under loose bark of old holly trees; all seasons. *Sutton Park (Blatch)*
- Omosiphora limbata*, F. In fungi on old stumps; spring to autumn. *Knowle (Blatch)*
- Micrurula melanocephala*, Marsh. On flowers of various trees and plants; spring to autumn. *Salford Priors, Knowle*
- Nitidula bipustulata*, L. In dead animals, under bones, in stack and vegetable refuse, etc.; all seasons; all localities
- Soronia punctatissima*, Ill. At sap, especially in *Cossus* burrows; all seasons. *Salford Priors; Shustoke (Blatch), Solihull, Knowle*
- *grisea*, L. At sap, under loose bark, amongst chips of newly felled oaks, in hedge refuse and moss
- Omosita depressa*, L. At sap, in fungi, carrion and under bones; all seasons. *Knowle*
- *colon*, L. Under bones, carrion, dung and flood refuse, etc.; all seasons; abundant in all localities
- *discoidea*, F. Found under same conditions and in same localities as preceding, but scarcer
- Phalycra sericea*, Sturm. In moss on poplar tree, also on a window; all seasons. *Knowle (Blatch), Packwood*
- Pocadius ferrugineus*, F. In puff balls and other fungi; spring to autumn. *Packwood (Blatch), Knowle*
- Pria dulcamaræ*, Scop. On *Umbelliferæ* and *Solanum dulcamaræ*; spring to autumn. *Salford Priors (Blatch), Knowle*
- Meligethes rufipes*, Gyll. On hawthorn and other flowers, in moss and dead leaves; all seasons; abundant
- *lumbaris*, Sturm. On various flowers and moss; all seasons; occurs throughout the district, but less abundantly than preceding
- *æneus*, F. On flowers and in moss and leaves; all seasons; abundant everywhere
- *æneus* var. *cæruleus*, Steph. On flowers, in moss, etc.; all seasons. *Knowle*
- *viridescens*, F. On flowers, in moss, etc.; all seasons; abundant in all localities
- *brunnicornis*, Sturm. On *Stachys sylvestris* and in moss; summer and winter. *Knowle*

INSECTS

Meligethes ovatus, Sturm. *Knowle*

— *picipes*, Sturm. On various flowers, in moss, etc.; all seasons; abundant in all localities

— *obscurus*, Er. On various plants and in moss; all seasons. *Coleshill* (Blatch), *Knowle*

— *erythropus*, Gyll. On *Helianthemum vulgare*, *Potentilla tormentilla*, etc. *Knowle*

Cychramus luteus, F. On flowers, in fungi; spring to autumn; all localities

Cryptarcha strigata, F. At sap on *Cossus* trees, under bark and in fungi; all seasons. *Solihull*, *Knowle*

— *imperialis*, F. Habitat and localities same as preceding. If tobacco smoke be puffed in the *Cossus* burrows numbers make their appearance where otherwise scarcely one is to be seen

Ips 4-guttata, F. Under bark, in moss and dead leaves; all seasons. *Knowle*

— 4-punctata, Herbst. In old stumps, under bark and in grass roots; all seasons. *Coleshill* (Blatch), *Knowle*

TROGOSITIDÆ

Nemosoma elongatum, L. Under bark, in the burrows of *Hylesinus vittatus*. *Compton Wyniates*

Tenebrioides mauritanicus, L. In corn and on walls; all seasons. *Small Heath*, *Bordesley* (Blatch)

Thymalus limbatus, F. Under bark; all seasons. *Knowle*

COLYDIIDÆ

Aglenus brunneus, Gyll. In hotbeds, etc.; all seasons. *Edgbaston* (Blatch)

Cerylon histeroides, F. Under bark of various trees, oak, pine, etc.; all seasons; abundant in midlands

— *ferrugineum*, Steph. Under bark, birch, oak, beech, etc.; all seasons. *Sutton Park* (Blatch), *Knowle*

CUCUJIDÆ

Rhizophagus cribratus, Gyll. In fungi, under bark, in stack refuse and grass tufts; all seasons. *Salford Priors*, *Shustoke* (Blatch), *Knowle*

— *depressus*, F. Under bark. *Sutton Coldfield* (Blatch), *Knowle*

— *perforatus*, Er. Under bark, etc. *Sutton Park*, *Salford Priors*

— *parallelocollis*, Er. Under bark and in fungi; all seasons. *Knowle*

Rhizophagus ferrugineus, Payk. Under bark and at sap; all seasons. *Solihull*, *Sutton* (Blatch), *Knowle*

— *nitidulus*, F. Under bark of oak and pine; all seasons. *Sutton Coldfield*, in great abundance

— *dispar*, Gyll. Under bark of oak, birch, etc.; all seasons; abundant

— *bipustulatus*, F. Under bark; abundant; all seasons

— *politus*, Hellw. Under bark, ash, poplar, etc.; spring to autumn. *Salford Priors* (Blatch)

Læmophlœus ferrugineus, Steph. Under bark and in granaries; all seasons. *Small Heath* (Blatch), *Knowle*, *Warwick*

— *ater*, Ol. In dead wood; occurs throughout the year. *Small Heath*, *Knowle* (Blatch)

Psammœchus bipunctatus, F. In grass tufts and the axils of plants in marshy places; all seasons. *Coleshill*, *Sutton* (Blatch), *Knowle*

Nausibius dentatus, Marsh. In flour and corn; all seasons. *Knowle*

Silvanus surinamensis, L. In corn, etc., and has also been taken under bark; all seasons. *Small Heath*, *Knowle* (Blatch)

— *unidentatus*, F. *Knowle* (Blatch)

MONOTOMIDÆ

Monotoma conicicollis, Aubé. In nests of *Formica rufa*; spring. *Knowle* (Blatch)

— *formecetorum*, Thoms. In nests of *Formica rufa*; spring. *Knowle*

— *spinicollis*, Aubé. In hotbeds, cowshed refuse, etc.; all seasons. *Edgbaston* (Blatch), *Knowle*

— *brevicollis*, Aubé. In stack refuse, lawn clippings, etc.; all seasons. *Knowle* (Blatch)

— *picipes*, Herbst. In hotbeds, stack refuse, grass tufts, moss, etc.; all seasons; abundant throughout the district

— *quadricollis*, Aubé. In hotbeds, etc.; all seasons. *Knowle*, *Edgbaston*

— *rufa*, Redt. *Knowle*

— *longicollis*, Gyll. In hotbeds, lawn clippings, moss, under bark, etc.; all seasons. *Sutton Park* (Blatch), *Knowle*; abundant

LATHRIDIIDÆ

Lathridius lardarius, De Geer. In hotbeds, etc.; all seasons; generally distributed but not abundant

A HISTORY OF WARWICKSHIRE

- Lathridius angulatus*, Humm. In moss, etc. *Knowle* (Blatch)
- Coninomus nodifer*, Westw. In hotbeds, moss, grass tufts, hedge refuse; under bark and bones; all seasons; extremely plentiful in all localities
- *constrictus*, Humm. On damp walls; said to occur under bark. *Knowle*
- Enicmus minutus*, L. In hotbeds, vegetable refuse, etc.; all seasons; abundant everywhere
- *transversalis*, Ol. In fungi, moss, dead leaves, grass tufts and flowers; all seasons; plentiful.
- *rugosus*, Herbst. In rotten wood, fungi, etc.; all seasons. *Knowle*, *Salford Priors*
- *testaceus*, Steph. In fungi on oaks; spring to autumn. *Knowle*
- Cartodere ruficollis*, Marsh. In fungi, moss, cowshed refuse, under bark, etc.; all seasons; abundant in all midland localities
- *elongata*, Curt. In moss, hedge refuse, fungi and under bark; all seasons. *Olton* (Blatch), *Knowle*, *Solihull*
- Corticaria pubescens*, Gyll. In flood refuse, moss and grass tufts; all seasons. *Salford Priors*, *Coleshill* (Blatch), *Knowle*, *Sutton*
- *crenulata*, Gyll. In flood refuse, moss, etc.; all seasons. *Salford Priors* (Blatch), *Knowle*
- *denticulata*, Gyll. In hedge refuse, moss, grass tussocks, etc.; all seasons. *Knowle*; *Sutton* (Blatch), *Coleshill*, *Salford Priors*
- *serrata*, Payk. Under bark, in stack refuse, etc.; all seasons. *Knowle*
- *fulva*, Com. In vegetable refuse; all seasons. *Knowle*, *Sutton*
- *elongata*, Humm. In moss, etc.; all seasons; abundant everywhere
- Melanophthalma gibbosa*, Herbst. In moss and vegetable refuse; all seasons; abundant everywhere
- *fuscata*, Humm. In moss and vegetable refuse and under bark; all seasons; plentiful throughout the district

CRYPTOPHAGIDÆ

- Diphyllus lunatus*, F. In *Hypoxylon concentricum*, on ash trees; spring to autumn. *Knowle* (Blatch), *Salford Priors*
- Telmatophilus caricis*, Ol. In moss and folds of *Typha*, amongst reeds, etc.; all seasons; abundant in all parts

- Telmatophilus typhæ*, Fall. Found under same conditions and in same localities as preceding, but less abundantly
- Antherophagus nigricornis*, F. On flowers of *Viburnum*, *Spiræa*, etc. *Knowle*
- *pallens*, Gyll. On *rhododendron*; summer. *Solihull*, *Knowle*
- *silaceus*, Herbst. On *Umbelliferæ* and in hawthorn blossom; summer. *Coleshill* (Blatch)
- Cryptophagus lycoperdi*, Herbst. In puff balls, under bark, amongst chips; spring to autumn; abundant in all midland localities
- *setulosus*, Sturm. In fungi, hedge refuse, etc., and at sap; all seasons. *Solihull*, *Knowle* (Blatch)
- *pilosus*, Gyll. In hotbeds, cowshed refuse, moss, etc.; all seasons. *Knowle*
- *punctipennis*, Bris. In hotbeds, under bones and bark; all seasons. *Knowle*
- *ruficornis*, Steph. In *Hypoxylon concentricum* on ash trees; spring to autumn. *Salford Priors* (Blatch), *Knowle*
- *saginitus*, Sturm. Cowshed refuse, grass tufts in bogs, etc. *Sutton Coldfield* (Blatch), *Knowle*
- *umbratus*, Er. In cowshed refuse, grass tufts and under bark; all seasons. *Sutton Park* (Blatch), *Knowle*
- *scanicus*, L. In vegetable refuse, moss, fungi and under bark; all seasons; abundant everywhere
- *scanicus* var. *patruelis*, Sturm. Found with the type
- *badius*, Sturm. In moss and flowers and by sweeping; all seasons. *Knowle* (Blatch), *Salford Priors*
- *validus*, Kr. In hotbeds, warehouses, etc.; all seasons. *Edgbaston* (Blatch), *Knowle*
- *dentatus*, Herbst. In hotbeds, fungi, vegetable refuse, etc.; all seasons. *Edgbaston* (Blatch), *Knowle*, *Sutton*
- *distinguendus*, Sturm. In hotbeds and grass tufts in bogs; all seasons. *Edgbaston*, *Knowle* (Blatch)
- *acutangulus*, Gyll. In hotbeds, moss, under bark, etc.; all seasons. *Edgbaston* (Blatch), *Knowle*
- *cellaris*, Scop. In granaries, cellars, fungi, etc.; all seasons; all localities
- *affinis*, Sturm. In straw refuse, cowsheds, moss, etc.; all seasons; abundant everywhere

INSECTS

- Cryptophagus pubescens*, Sturm. In moss and hedge refuse and by sweeping ; all seasons. *Small Heath* (Blatch), *Knowle*
- *bicolor*, Sturm. Moss and grass tussocks in bogs, cowshed refuse and on damp walls ; all seasons. *Knowle, Sutton Park*
- Micrambe vini*, Panz. On gorse and broom, in grass roots and moss ; all seasons ; all localities
- Henoticus serratus*, Gyll. Under bark on sappy oak trunks. *Knowle*
- Paramecosoma melanocephalum*, Herbst. In flood refuse, moss, etc. ; all seasons ; not uncommon throughout the midlands
- Myrmecoxenus vaporariorum*, Guér. In hotbeds and heaps of stable manure ; sometimes in great abundance, always in October. *Edgbaston* (Blatch), *Knowle*
- Atomaria fimetarii*, Herbst. In moss and flood refuse and fungi. *Knowle* (Blatch)
- *barani*, Bris. By sweeping. *Knowle*
- *nigriventris*, Steph. In moss, fungi, refuse, etc. ; all seasons. *Coleshill ; Leamington* (Blatch), *Knowle*
- *umbrina*, Er. In sphagnum, grass tufts, under bark, etc. ; all seasons ; all localities
- *linearis*, Steph. In moss, amongst sedges, etc. ; all seasons. *Knowle* (Blatch)
- *elongatula*, Er. Under bark, on sappy oak stumps, etc. ; all seasons. *Knowle*
- *fuscipes*, Gyll. In moss, dead leaves and cut grass ; all seasons. *Knowle* (Blatch)
- *nigripennis*, Payk. In cowshed refuse, hotbeds, etc. ; all seasons ; all midland localities. Sometimes abundantly
- *munda*, Er. In cowshed refuse ; all seasons. *Knowle* (Blatch)
- *fuscata*, Schön. In stack refuse, hotbeds, etc. *Knowle* (Blatch)
- *pusilla*, Payk. In moss, hedge refuse, etc. ; all seasons. Abundant everywhere
- *atricapilla*, Steph. Habitat and distribution same as preceding
- *berolinensis*, Kr. In moss and vegetable refuse ; all seasons. *Knowle, Sutton* (Blatch)
- *basalis*, Er. In sphagnum, hypnum, osier beds, etc. ; all seasons. *Stratford-on-Avon* (Blatch), *Knowle, Sutton*
- Atomaria mesomelas*, Herbst. Habitat same as preceding ; all seasons. *Knowle, Coleshill, Sutton* (Blatch)
- *gutta*, Steph. Amongst reeds, in vegetable refuse and fungi ; all seasons. *Coleshill* (Blatch), *Sutton, Knowle, Salford Priors*
- *apicalis*, Er. In stack and other refuse, moss, etc. ; all seasons ; abundant in all localities
- *analis*, Er. Habitat and distribution same as preceding
- *ruficornis*, Marsh. Vegetable refuse, hotbeds, carrion and under bark ; all seasons ; all localities
- *versicolor*, Er. In sheep-dung, etc. *Knowle* (Blatch)
- Ephistemus globosus*, Waltl. In stack refuse, hotbeds, dung and under bark. *Knowle* (Blatch)
- *gyrinoides*, Marsh. In hotbeds and vegetable refuse, etc. ; all seasons ; all localities ; very abundant
- *gyrinoides* var. *dimidiatus*, Sturm. Found with the type
- *gyrinoides* var. *dubia*, Fowler. Hotbeds, etc. *Knowle*

MYCETOPHAGIDÆ

- Typhæa fumata*, L. In stack and hedge refuse, hotbeds, etc. ; all seasons ; extremely abundant everywhere
- Triphyllus suturalis*, F. In fungi, dead leaves and under bark ; all seasons. *Knowle, Salford Priors*
- *punctatus*, F. In puff balls and other fungi and under bark ; occurs in all midland localities
- Litargus bifasciatus*, F. In *Hypoxylon concentricum* on ash trees ; all seasons. *Knowle, Packwood*
- Mycetophagus 4-pustulatus*, L. In fungi, on old ash and willow trees, etc. ; spring to autumn. *Salford Priors* (Blatch), *Knowle*
- *piceus*, F. In *Polypori* on ash and oak and under bark. *Tamworth* (Blatch)
- *multipunctatus*, Hellw. In fungi and ash trees ; spring to autumn. *Salford Priors* (Blatch)

BYTURIDÆ

- Byturus sambuci*, Scop. On flowers of *Viburnum*, *Salix*, *Caltha*, etc. *Knowle, Solihull*
- *tomentosus*, F. On various flowers ; summer ; abundant everywhere

A HISTORY OF WARWICKSHIRE

DERMESTIDÆ

- Dermestes murinus*, L. In dead birds, moles and other animals; spring to autumn; abundant everywhere
- *lardarius*, L. In bacon, on walls, etc.; all seasons. *Birmingham, Knowle*
- Attagenes pelli*, L. On walls in houses, in hawthorn blossom and under bark; all seasons. *Birmingham, Small Heath* (Blatch), *Coleshill, Knowle*
- Megatoma undata*, Er. Under ash bark and logs, in flowers, etc.; all seasons. Near *Leamington, Knowle* (Blatch)
- Tiresias serra*, F. Under loose bark on old oaks, willows, etc.; spring to autumn. *Knowle* (Blatch)
- Anthrenus musæorum*, L. In flowers of *Umbelliferæ*, on old fences, etc.; spring to autumn. *Knowle*
- *claviger*, Er. Habitat same as preceding; all seasons. *Knowle* (Blatch), *Sutton Park*

BYRRHIDÆ

- Byrrhus pilula*, L. In moss and at roots of plants; all seasons; all localities
- Cytilus varius*, F. In moss, at grass roots and under stones; all seasons; found throughout the district
- Simplocaria semistriata*, F. In moss, grass tufts, hotbeds and under bones; all seasons; abundant everywhere
- Aspidiphorus orbiculatus*, Gyll. In fungi, grass tufts in woods, under bark and on windows; all seasons. *Knowle* (Blatch)

PARNIDÆ

- Elmis æneus*, Müll. In rivers and brooks, on bracken!! all seasons. *Knowle*
- *subviolaceus*, Müll. In streams, waterfalls, etc. *Knowle* (Blatch)
- *nitens*, Müll. In streams; spring to autumn. *Knowle* (Blatch)
- Limnius tuberculatus*, Müll. In brooks and rivers, on stones and submerged logs; all seasons; all localities
- Parnus prolifericornis*, F. In wet places, in moss, roots, etc.; all seasons. *Knowle*
- *auriculatus*, Panz. Habitat and distribution same as preceding

HETEROCERIDÆ

- Heterocerus marginatus*, F. On banks of rivers, ponds and ditches; spring to autumn. *Salford Priors, Tysoe* (Blatch), *Knowle*
- *lævigatus*, Panz. Banks of rivers and ponds; spring to autumn. *Knowle*

LUCANIDÆ

- Lucanus cervus*, L. Found on the trunks of oak trees, on pailings, etc.; summer. *Warwick* (Martineau)
- Dorcus parallelipedus*, L. In rotten logs, stumps of trees and under bark; all seasons. *Salford Priors* (Blatch), *Knowle*
- Sinodendron cylindricum*, L. In decaying trees, especially ash; all seasons. *Sparkbrook; Knowle* (Blatch), *Solihull*

SCARABÆIDÆ

COPRINA

- Onthophagus ovatus*, L. In dung and vegetable refuse; all seasons. *Knowle*
- *vacca*, L. In dung; one specimen from *Wimpstone*, May 5, 1900 (Bloom)
- *nuchicornis*, L. In dung; spring to autumn. *Sutton Park* (Blatch)
- Aphodius erraticus*, L. In dung; throughout the year. *Sutton Park*
- *subterraneus*, L. In dung; all seasons. *Sutton Park; Coleshill* (Blatch), *Knowle, Solihull*
- *fossor*, L. In dung and vegetable refuse; all seasons; occurs in all localities
- *hæmorrhoidalis*, L. In dung, vegetable refuse and moss; all seasons. *Knowle; Sutton* (Blatch)
- *foetens*, F. In dung, especially in sandy places; spring to autumn. *Sutton; Coventry* (Blatch), *Knowle, Coleshill*
- *fimetarius*, L. In dung, hotbeds, moss, etc.; all seasons; all localities
- *scybalarius*, F. In dung, moss and vegetable refuse; all seasons. *Knowle*
- *ater*, De G. In dung, moss, hotbeds, etc.; all seasons; all localities
- *constans*, Duft. In sheep-dung, moss and hedge refuse; all seasons. *Knowle*
- *granarius*, L. In dung and vegetable refuse; all seasons. *Sutton Park* (Blatch)
- *sordidus*, F. In dung; spring to autumn. *Knowle* (Blatch), *Sutton Park*
- *rufescens*, F. In dung; spring to autumn. *Sutton Park* (Blatch), *Solihull, Knowle*
- *putridus*, Sturm. In dung; one specimen at *Knowle*, August, 1899
- *porcus*, F. In dry cow-dung; spring to autumn. *Sutton Park* (Blatch)
- *tristis*, Panz. In dung in sandy places; spring to autumn. *Sutton Park* (Blatch), *Knowle*

INSECTS

COPRINA (continued)

- Aphodius pusillus*, Herbst. In dung, stack and hedge refuse and moss. *Sutton Park*; *Knowle* (Blatch)
- *merdarius*, F. In dung; spring to autumn; all localities
- *inquinatus*, F. In dung and under loose bark; spring to autumn; all localities
- *tessulatus*, Payk. In dry cow-dung; winter and early spring. *Sutton Park* (Blatch)
- *conspurcatus*, L. In dry cow-dung; spring to autumn. *Sutton Park* (Blatch)
- *sticticus*, Panz. One specimen in dung at *Knowle*, August, 1899
- *punctato-sulcatus*, Stm. In dung, hotbeds and moss; all seasons; abundant everywhere
- *prodromus*, Brahm. Habitats and localities same as the preceding
- *contaminatus*, Herbst. In dung; spring to autumn. *Knowle*; *Sutton* (Blatch)
- *luridus*, F. In sheep-dung, etc.; all seasons. *Sutton Park* (Blatch), *Stratford-on-Avon* (Bloom)
- *rufipes*, L. In dung, moss, hotbeds and under bones; all seasons; abundant in all localities
- *depressus*, Kug. In dung; all seasons. *Sutton Park* (Blatch)
- Geotrupes typhæus*, L. Sandy places in dung; spring to autumn. *Knowle*; *Sutton* (Blatch), *Coleshill*
- *spiniger*, Marsh. In dung in all localities; spring to autumn
- *stercorarius*, L. In all localities; spring to autumn
- *sylvaticus*, Panz. In dung in all localities; spring to autumn
- *vernalis*, L. All seasons; found in dung in all parts of the district
- Trox sabulosus*, L. In dry carcasses and skins of animals. *Sutton Park*

MELOLONTHINA

- Hoplia philanthus*, Füss. In old willows and other trees and shrubs; spring and summer. *Knowle* (Blatch), *Solihull*
- Serica brunnea*, McL. Under bark and at 'sugar,' also attracted by 'light'; spring and summer; all localities
- Rhizotrogus solstitialis*, Latr. Flying at dusk about trees. *Stratford-on-Avon* (Bloom)
- Melolontha vulgaris*, F. On oaks and other trees; spring and summer. Only too plentiful everywhere

RUTELINA

- Phyllopertha horticola*, L. Abundant in flowery meadows in May and June. In all localities

CETONIINA

- Cetonia aurata*, L. On various flowers, especially roses and lilies; summer. *Knowle* (Blatch)

BUPRESTIDÆ

- Agrilus laticornis*, Ill. On young oaks, hazels, birches and other trees in and near woods; spring to autumn. *Sutton Park* (Blatch), *Knowle*
- *angustulus*, Ill. Habitats and localities same as the preceding
- Trachys troglodytes*, Gyll. On flowers and marshy meadows in May. *Knowle*

THROSCIDÆ

- Throscus dermestoides*, L. By beating birch trees; spring to autumn. *Knowle*
- *carinifrons*, Bour. Beaten from sallows. *Knowle*

EUCNEMIDÆ

- Melasis buprestoides*, L. In decaying logs and old fences. *Sutton Park* (Blatch), *Knowle*

ELATERIDÆ

- Lacon murinus*, L. Under turf, under stones and by sweeping; all seasons; all localities
- Cryptohypnus riparius*, F. At the roots of plants and in refuse in marshy places; all seasons; all localities
- *quadripustulatus*, F. Under stones and at roots of plants or margins of streams; all seasons. *Knowle* (Blatch), *Salford Priors*
- *dermestoides*, Herbst. Habitats and localities same as the preceding
- *quadriguttatus*, Lap. Found with the preceding and in the same localities
- Elater balteatus*, L. In decaying birch trees; all seasons. *Sutton* (Blatch)
- *nigrinus*, Payk. Under bark of decaying pines, etc. *Knowle*
- Melanotus rufipes*, Herbst. In decaying wood; all seasons; abundant everywhere
- *rufipes* var. *castanipes*, Payk. Beech log. *Knowle*
- Athous niger*, L. On bracken and by sweeping in meadows, etc.; spring to autumn; found throughout the district

A HISTORY OF WARWICKSHIRE

- Athous longicollis*, Ol. On trees and herbage, especially in wooded districts; spring to autumn; occurs throughout the county
- *hæmorrhoidalis*, F. On bracken and various trees and herbage; in winter at roots of grass and in moss; all seasons; abundant everywhere
- *vittatus*, F. This species occurs with the preceding and is often mistaken for it
- Limenius minutus*, L. By sweeping flowers, etc., in meadows; summer; plentiful in all localities
- Adrastus limbatus*, F. By sweeping, in and near woods; summer; all localities
- Agriotes sputator*, L. In moss, grass tufts, vegetable refuse, and under stones, etc.; all seasons; all localities
- *obscurus*, L. Habitats as in the preceding; abundant in all parts of the district
- *lineatus*, L. Found under the same circumstances as the preceding and equally widely distributed
- *sobrinus*, Kies. In grass tufts and moss and by beating and sweeping; all seasons; all localities
- *pallidulus*, Ill. Habitats and localities as in the preceding
- Dolopius marginatus*, L. By beating and sweeping; mostly in woods; amongst dead leaves in winter; abundant in all parts of the midlands
- Corymbites pectinicornis*, L. On various plants and flowers in spring and early summer, especially in damp pastures; all localities but never abundantly
- *cupreus*, F. In pastures and on hill-sides, in grass roots and moss in winter; all seasons; all localities
- *cupreus* var. *æruginosus*, F. Found with the type, but seems to be more partial to hills and high moorlands
- *tessellatus*, F. In moss, grass roots, flood refuse, and various plants; all seasons. *Knowle*
- *quercus*, Gyll. By beating young trees and sweeping herbage; summer; all localities
- *quercus* var. *ochropterus*, Steph. Found with the type but perhaps less abundantly
- *holosericeus*, F. In moss and herbage, gravel pits, etc.; all seasons; throughout the district

- Corymbites æneus*, L. Under stones and at roots of ling, etc. *Sutton Park*
- *bipustulatus*, L. In dead willows, birch stumps and by sweeping; one specimen. *Leamington*
- Campylus linearis*, L. By beating various trees, in dead leaves and old stumps; all seasons. *Sutton Park* (Blatch), *Knowle*

DASCILLIDÆ

- Helodes minuta*, L. On various trees and herbage in damp places; spring to autumn; all localities
- *marginata*, F. Found under the same conditions as the preceding and in the same localities, but perhaps rather less abundantly
- Microcara livida*, F. On herbage in damp places; spring to autumn; all localities
- *livida* var. *bohemanni*, Mann. In osier beds; spring to autumn. *Knowle*, *Solihull*
- Cyphon coarctatus*, Payk. In osier beds, on margins of streams, etc.; all seasons; all localities
- *nitidulus*, Thoms. On herbage in moist and boggy places; all seasons. *Knowle*; *Sutton* (Blatch), *Coleshill*
- *variabilis*, Thunb. In marshy places, by sweeping, etc.; all seasons; abundant everywhere
- *padi*, L. In bogs; all seasons. *Coleshill* (Blatch), *Sutton*
- Scirtes hemisphæricus*, L. Margins of streams, canals and pools; spring to autumn; rather local, but occurs throughout the midlands

MALACODERMIDÆ

LAMPYRINA

- Lampyris noctiluca*, L. Under stones and loose bark, in moss and grass roots; comes freely to 'light' and 'sugar'; all seasons; all localities
- Podabrus alpinus*, Payk. By beating various trees; spring and summer; all localities

TELEPHORINA

- Telephorus rusticus*, Fall. Abundant in all localities
- *lividus*, L. All localities
- *pellucidus*, F. Fairly plentiful in all localities
- *nigricans*, Müll. All localities
- *nigricans* var. *discoideus*, Steph. Occurs with the type, but is scarcer

INSECTS

TELEPHORINA (*continued*)

- Telephorus lituratus*, F. An abundant species everywhere
 — *figuratus*, Mann. Occurs in all parts of the midlands
 — *bicolor*, F. Abundant everywhere
 — *hæmorrhoidalis*, F. *Knowle*
 — *oralis*, Germ. *Knowle* (Blatch)
 — *flavilabris*, Fall. In all localities
 — *thoracicus*, Ol. *Knowle* (on palings)
Rhagonyca fuscicornis, Ol. All localities
 — *fulva*, Scop. Extremely abundant everywhere
 — *testacea*, L. Found throughout the county but not abundantly
 — *limbata*, Thoms. Very plentiful in all localities
 — *pallida*, F. All localities

NOTE.—As all the species of the above two genera are found during the summer months on various flowers and the foliage of trees and shrubs it has been considered unnecessary to repeat the facts in each case.

- Malthinus punctatus*, Fourc. By beating and sweeping trees and shrubs; spring to autumn; all localities
 — *fasciatus*, Ol. On trees and plants, especially in and near woods; spring to autumn; all localities
 — *frontalis*, Marsh. On and near fir trees; summer. *Knowle*
Malthodes marginatus, Latr. On trees and herbage; spring to autumn; abundant in all localities
 — *flavoguttatus*, Kies. On various trees; spring to autumn. *Knowle* (Blatch), *Salford Priors*
 — *guttifer*, Kies. On trees and plants; summer. *Knowle*
 — *mysticus*, Kies. *Knowle*. One specimen by beating; summer
 — *pellucidus*, Kies. On young birches and other trees and plants; summer; *Knowle*
 — *minimus*, L. On various trees and shrubs; spring to autumn; abundant in all localities
 — *misellus*, Kies. On young trees, etc.; summer. *Knowle*
 — *atomus*, Thoms. On trees and plants; summer. *Knowle* (Blatch)

MELYRINA

- Malachius æneus*, L. In grass tufts and by sweeping; apparently very rare in the midlands; one specimen taken by the late Mr. Blatch and one by the author; both at *Knowle*
 — *bipustulatus*, L. On flowers and trees in summer, in moss and dead leaves

MELYRINA (*continued*)

- in woods in winter; abundant everywhere
Malachius viridis, F. On young trees in woods; summer. *Knowle* (one specimen)
Anthocomus fasciatus, L. In grassy places and on willows; summer. *Knowle*
Dasytes flavipes, F. On trees and herbage; summer. *Knowle* (Blatch)
 — *ærosus*, Kies. On young trees and herbage; summer; all midland localities, especially in and near woods
Haplocnemus impressus, Marsh. All seasons; under oak bark, in flowers, etc. *Sutton*

CLERIDÆ

- Tillus elongatus*, L. On old willows, etc.; spring and summer. *Knowle*
Opilo mollis, L. On old oaks; summer. *Leamington* (A. J. Chitty)
Thanasimus formicarius, L. In old trees, palings, etc.; spring to autumn. *Tamworth* (Blatch), *Salford Priors*
Necrobia ruficollis, F. Under bones and in carcasses; spring to autumn. *Knowle*; *Small Heath* (Blatch)
 — *violacea*, L. Under bones, hay refuse and in carcasses; all seasons. *Knowle*
 — *rufipes*, De G. Under bones and in carcasses; spring to autumn. *Knowle*
Corynetes cæruleus, De G. Under bones, in stack refuse and carcasses; all seasons. *Knowle*

PTINIDÆ

PTININA

- Ptinus fur*, L. In dead wood and in old houses; all seasons; all localities
 — *subpilosus*, Müll. In rotten wood, etc.; all seasons; rare. *Small Heath* (Blatch), *Knowle*
 — *brunneus*, Duft. In cowshed refuse, old houses, etc. *Birmingham*; *Small Heath* (Blatch), *Knowle*
Niptus hololeucus, Falc. In cupboards, etc., in houses; all seasons; all localities
 — *crenatus*, F. In cowshed refuse, granaries, etc.; all seasons. *Birmingham* (Blatch), *Knowle*
Hedobia imperialis, L. In the wood of old hawthorns and by beating May-blossom; spring and summer. *Coleshill*; *Brandon* (Blatch), *Knowle*

ANOBIINA

- Dryophilus pusillus*, Gyll. On fir trees and by sweeping near them; summer. *Knowle*

A HISTORY OF WARWICKSHIRE

ANOBIINA (*continued*)

- Priobium castaneum*, F. In dead wood and under bark; all seasons. *Small Heath* (Blatch), *Knowle*
Anobium domesticum, Fourc. In dead wood and in houses; all seasons; abundant in all localities
 — *paniceum*, L. In granaries, houses, etc.; all seasons. *Small Heath* (Blatch)
Xestobium tessellatum, F. In old trees, etc.; spring to autumn. *Knowle*
Ernobius mollis, L. In old fences, trees, sallows, under bones, etc.; all seasons. *Small Heath* (Blatch), *Knowle*
Ptilinus pectinicornis, L. In old trees, posts, etc.; summer; found in all localities
Ochina hederæ, Müll. In old ivy and by beating and sweeping; summer. *Knowle* (Blatch)

BOSTRICHIDÆ

- Rhizopertha pusilla*, F. In rice, etc.; all seasons. *Birmingham*, *Knowle* (Blatch)

LYCTIDÆ

- Lyctus canaliculatus*, F. On recently felled oaks, palings, etc.; also under bark and in various kinds of timber; spring and summer. *Knowle*; *Tysoe* (Blatch), *Birmingham*

CISSIDÆ

- Cis boleti*, Scop. In boleti on old stumps, posts, etc.; all seasons; abundant in all localities
 — *villosulus*, Marsh. In boleti; all seasons. *Birmingham* (Blatch), *Knowle*
 — *micans*, F. In boleti; all seasons. *Knowle* (Blatch)
 — *hispidulus*, Payk. In boleti; all seasons. *Knowle* (Blatch)
 — *bidentatus*, Ol. In boleti; all seasons. *Salford Priors* (Blatch), *Knowle*
 — *alni*, Gyll. In boleti and under bark; doubtless occurs at all seasons. *Knowle*
 — *nitidus*, Herbst. On fungoid stumps in woods; summer. *Knowle* (Blatch)
 — *pygmæus*, Marsh. In boleti, etc.; all seasons. *Knowle* (Blatch)
 — *festivus*, Panz. In boleti, etc. *Knowle*
 — *vestitus*, Mell. In boleti; all seasons. *Near Olton* (Blatch), *Knowle*, *Sutton*
Ennearthron cornutum, Gyll. In *Poly-pori*; autumn. *Knowle* (Blatch)
Octotemnus glabriculus, Gyll. In boleti, etc.; all seasons; abundant in all localities

CERAMBYCIDÆ

PRIONINA

- Prionus coriarius*, L. On trees, fences, etc.; spring to autumn. *Aston*, *Birmingham*; *Solihull* (Blatch)

CERAMBYCINA

- Aromia moschata*, L. On old willows; summer. *Salford Priors*
Callidium violaceum, L. In decaying wood. *Knowle* (Blatch), *Binley*, *Coventry*
 — *alni*, L. Amongst dead sticks, etc. *Knowle*
Clytus arietis, L. On old posts, in flowers, etc.; spring to autumn; found throughout the midlands
 — *mysticus*, L. On flowers, etc.; spring and summer. *Knowle*
Gracilia minuta, F. In dead willow twigs; also in remains of old hampers; spring to autumn. *Small Heath* (Blatch), *Knowle*
Rhagium inquisitor, F. In decaying trees and logs; all seasons; found throughout the district
 — *bifaciatum*, F. In decaying trees and logs; all seasons; recorded from all districts
Toxotus meridianus, Panz. On *Umbelliferae*, *Spiræa* and other flowers. *Solihull*, *Knowle*
Strangalia armata, Herbst. On flowers; summer; abundant throughout the county
 — *melanura*, L. On flowers; summer; one specimen at *Knowle*, June 1900
Grammoptera tabacicolor, De G. On flowers near woods; summer. *Knowle*; *Sutton* (Blatch), *Coventry*
 — *ruficornis*, F. On flowers; summer; plentiful throughout the district
- ### LAMIINA
- Leiopus nebulosus*, L. On aspens and sallows; spring to autumn. *Knowle*, *Sutton*
Pogonochærus bidentatus, Thoms. On palings, etc., and by beating dry sticks; found throughout the year, but especially in spring. *Small Heath*, *Moseley*; *Marston Green*, *Coleshill* (Blatch), *Knowle*
 — *dentatus*, Fourc. In dead sticks, etc.; spring and summer. *Marston Green* (Blatch), *Knowle*
Saperda populnea, L. On aspens; spring and summer; during winter this species may be found in the twigs of aspen, which are much swollen where the beetle is undergoing its transformations. *Knowle* (Blatch), *Solihull*

INSECTS

LAMIINA (continued)

Tetrops præusta, Steph. On apple and other blossoms; spring and summer. *Knowle*

BRUCHIDÆ

- Bruchus pectinicornis*, L. In granaries, etc.; all seasons. *Birmingham*
 — *pisi*, L. In peas; all seasons. *Knowle* (Blatch), *Birmingham*
 — *rufimanus*, Boh. Amongst beans and in pea fields; summer. *Small Heath* (Blatch), *Knowle*
 — *atomarius*, L. On various flowers. *Knowle* (Blatch)
 — *loti*, Payk. On *Lotus corniculatus*, etc.; summer. *Knowle*
 — *villosus*, F. On flowers of broom and other plants; summer. *Knowle*

CHRYSOMELIDÆ

EUPODA

- Donacia crassipes*, F. On water lilies; summer. *Knowle* (Blatch)
 — *dentata*, Hoppe. On *Potamogeton*, etc.; summer. *Knowle*
 — *versicoloreæ*, Brahm. On *Potamogeton*, etc.; summer. *Knowle*
 — *limbata*, Panz. On flags, etc.; summer. *Knowle*
 — *bicolora*, Zsch. On aquatic plants; summer. *Knowle*
 — *simplex*, F. On aquatic plants; summer; abundant everywhere
 — *vulgaris*, Zsch. On *Typha latifolia*, etc.; summer. *Knowle*
 — *semicuprea*, Panz. On aquatic plants; summer. *Knowle*
 — *sericea*, Herbst. On aquatic plants; spring to autumn; abundant in all localities
 — *discolor*, Panz. On aquatic plants and grass tufts in bogs; all seasons. *Sutton Park*
 — *affinis*, Kunze. On *Carex paludosa*; very abundant on canal side at *Knowle* in June
Zeugophora subspinosæ, F. On young aspens, birches, etc.; spring to autumn. *Knowle*
Lema cyanella, L. Amongst herbage, moss, etc., in meadows; all seasons. *Knowle*
 — *lichenis*, Voeb. Amongst herbage, in grass tufts, moss, etc.; all seasons; abundant everywhere
 — *melanopa*, L. Amongst herbage, especially in cornfields; spring to autumn; all localities
Crioceris asparagi, L. On asparagus. *Knowle*

CAMPTOSOMATA

- Clythra quadripunctata*, L. On herbage and trees in and near woods; often found in and near nests of *Formica rufa*. *Knowle*
Cryptocephalus pusillus, F. On birch, etc., in and near woods; spring and autumn. *Knowle*
 — *labiatus*, L. On various trees in and near woods; spring to autumn; all localities, plentiful
 — *frontalis*, Marsh. On birch and willow; summer. *Knowle*

CYCLICA

- Lamprosoma concolor*, Sturm. Amongst herbage, at grass roots, etc.; all seasons. *Knowle*
Timarcha tenebricosa, F. Hedge sides, heaths and commons, etc.; spring and summer; all localities
 — *violaceonigra*, De G. On heaths and commons; spring and summer. *Sutton Park* (Blatch)
Chrysomela staphylea, L. On herbage, in moss, grass tufts, etc.; all seasons; abundant in all localities
 — *polita*, L. In marshy places, etc., and on herbage; all seasons; abundant in all localities
 — *orichalcia*, Müll. On herbage; summer. *Alcester* (Blatch)
 — *orichalcia* var. *hobsoni*, Steph. Found with the type form. *Alcester* (Blatch)
 — *menthrasti*, Suffr. Marshy places on mint, etc. *Edgbaston*
Melasoma longicollæ, Suffr. On aspens in woods; summer. *Edgbaston* (Blatch), *Knowle*
Phytodecta rufipes, De G. On aspen, hazel, etc., in woods; summer. *Brandon* (Blatch), *Knowle*
 — *viminalis*, L. On willows, aspen, etc., in woods; summer. *Knowle*
 — *olivacea*, Forst. On wood sage, broom; in moss, etc.; all seasons. *Knowle*
 — *olivacea* var. *litura*, F. *Knowle* (Blatch)
Gastroidea polygoni, L. On *Polygonum* and other low plants; spring to autumn; very abundant
Plagiodera versicoloreæ, Laich. On willows; spring to autumn. *Salford Priors* (Blatch), *Knowle*
Phædon tumidulus, Germ. On herbage, in moss, etc.; all seasons; all localities
 — *armoraciæ*, L. Habitat and distribution same as the preceding
 — *cochleariæ*, F. On watercress, etc.; often found in moss in wet places; all seasons; all localities

A HISTORY OF WARWICKSHIRE

CYCLICA (*continued*)

- Phyllodecta vulgatissima*, L. On poplar, willow, etc. Near *Knowle* (under cut reeds)
- *cavifrons*, Thoms. On poplars; spring to autumn; all localities
- *vitellina*, L. On willows, aspens, etc.; spring to autumn; extremely abundant
- Hydrothassa aucta*, F. In wet places, amongst herbage, refuse, etc.; all seasons. *Knowle* (Blatch)
- *marginella*, L. At roots of plants and on herbage in wet places; all seasons; all localities
- Prasocurus junci*, Brahm. On *Veronica baccabunga*; in winter at roots of plants; found throughout the midlands
- *phellandrii*, L. On *Phellandrium aquaticum*, in the folds of *Typha*, grass tussocks, etc., in marshy places. *Sutton Park* (Blatch), *Knowle*
- Luperus rufipes*, Scop. On birch, willow, alder, etc.; summer; all localities
- *flavipes*, L. Habitat and distribution same as the preceding
- Lochmæa capræ*, L. On willows, birches, etc.; spring to autumn; all localities
- *suturalis*, Thoms. On ling and heather; spring to autumn. *Sutton* (Blatch), *Coleshill*
- *cratægi*, Forst. On whitethorn, etc.; summer. *Knowle* (Blatch)
- Galerucella viberni*, Payk. On *Viburnum*, especially in woods; several woods about *Knowle*
- *nymphææ*, L. On water plants, *Nymphææ*, etc.; all seasons. *Knowle*, *Coleshill*
- *sagittariæ*, Gyll. On water plants; hibernates at roots of plants; all seasons. *Knowle*, *Sutton* (Blatch), *Coleshill*
- *lineola*, F. On willow and alder. *Knowle* (Blatch)
- *tenella*, L. In osier beds, etc.; all seasons; hibernates at roots of plants. *Sutton Park* (Blatch), *Knowle*
- Adimonia tenaceti*, L. On devil's bit scabious, wild thyme, etc.; spring to autumn. *Knowle* (Blatch), *Coleshill*
- Symela halensis*, L. On flowers and herbage; summer and autumn; all midland localities
- Longitarsus anchusæ*, Payk. On *Anchusa*, etc., and in moss and grass tufts; all seasons. *Knowle* (Blatch)

CYCLICA (*continued*)

- Longitarsus holsaticus*, L. In boggy places; on *Equisetum* and in *Sphagnum*. *Coleshill*
- *luridus*, Scop. On herbage and in moss and grass tufts; all seasons; all localities
- *brunneus*, Duft. Habitat and distribution same as the preceding
- *fuscus*, Kuts. *Knowle*
- *suturellus*, Duft. On *Senecio jacobææ*, etc.; summer (Blatch)
- *suturellus* var. *fuscicollis*, Steph. On *Senecio*. *Knowle* (Blatch)
- *atricillus*, L. On *Medicago* and other low plants; summer. *Knowle* (Blatch), *Stratford-on-Avon* (Bloom)
- *melanocephalus*, All. On *Spiræa*, etc.; occurs in all midland localities
- *atriceps*, Kuts. In moss and hedge refuse in winter. *Knowle*
- *nasturtii*, F. On *Crucifera* in summer; in moss and dead leaves in winter. *Knowle* (Blatch)
- *piciceps*, Steph. On *Senecio jacobææ*. *Knowle* (Blatch)
- *membranaceus*, Foudr. On *Teucrium*, etc.; summer. *Knowle*
- *pusillus*, Gyll. On *Thymus serpyllum*, etc. *Stratford-on-Avon* (Bloom), *Knowle* (Blatch), *Sutton Coldfield*
- *jacobææ*, Wat. On ragwort; summer; all localities
- *rutilus*, Ill. On *Scrophularia aquatica*. *Knowle* (Blatch)
- *ochroleucus*, Marsh. On low herbage. *Knowle*
- *lævis*, Duft. On *chrysanthemum*, etc. *Knowle* (Blatch)
- *pellucidus*, Foudr. On *Trifolium* and *Mentha*. *Knowle* (Blatch)
- NOTE.—Several of the foregoing records are given very doubtfully, the species of *Longitarsus* being, with few exceptions, extremely difficult to determine. This remark refers to Mr. Blatch's records as well as my own.
- Haltica tamaricis*, Lehr. By sweeping. *Knowle* (Blatch)
- *lythri*, Aubé. On herbage in marshy places. *Knowle* (May)
- *ereceti*, All. On ling and heath; summer and autumn. *Coleshill*
- *coryli*, Brit. Coll. In woods. *Knowle* (Blatch)
- *oleracea*, L. On various plants; spring to autumn; all localities
- *palustris*, Weise. In wet places. *Stratford-on-Avon* (Bloom)
- *pusilla*, Duft. On *Helianthemum*;

INSECTS

CYCLICA (*continued*)

- summer. *Knowle* (Blatch), *Stratford-on-Avon* (Bloom)
- Phyllotreta nigripes*, F. On Cruciferæ. *Knowle* (Blatch)
- *consobrina*, Curt. On Cruciferæ. *Knowle* (Blatch)
- *punctulata*, Marsh. On Cruciferæ in summer and in moss and dead leaves in winter. *Solihull* (Blatch), *Knowle*
- *cruciferæ*, Goeze. On Cruciferæ. *Knowle* (Blatch)
- *vitula*, Redt. On Cruciferæ, etc.; summer. *Leamington*; *Knowle* (Blatch)
- *undulata*, Kuts. On Cruciferæ, in moss, etc.; all seasons; all localities
- *nemorum*, L. On Cruciferæ, in moss, amongst dead leaves in hedges and woods, etc.; all seasons; occurs throughout the county
- *ochripes*, Curt. In wet places, on herbage. *Knowle* (Blatch)
- *sinuata*, Steph. In moss, grass tufts in bogs, etc.; all seasons. *Knowle*, *Sutton* (Blatch)
- *tetrastigma*, Com. On Cruciferæ, etc. *Knowle* (Blatch)
- *exclamationis*, Thunb. In moss, hedge rubbish, dead leaves in woods, etc.; all seasons; all localities
- Aphthona venustula*, Kuts. On Euphorbia, etc.; summer. *Knowle*
- *atrocœrulea*, Steph. Amongst herbage and in moss, etc.; all seasons. *Knowle* (Blatch)
- Batophila rubi*, Payk. By beating, etc.; summer. *Salford Priors* (Blatch), *Knowle*
- *ærata*, Marsh. By beating, etc.; summer. *Knowle* (Blatch)
- Sphæroderma testaceum*, F. On thistles, *Senecio*, etc.; spring to autumn; all localities
- *cardui*, Gyll. On thistles, etc.; spring to autumn; all localities
- Apteropeda orbiculata*, Marsh. In moss, grass tufts and dead leaves, especially in woods; all seasons; all localities
- Minophila muscorum*, Koch. In moss in woods; all seasons. *Knowle*
- Mantura rustica*, L. In moss, cut grass, under bark, etc.; all seasons. *Small Heath*; *Knowle* (Blatch)
- *rustica* var. *suturalis*, Weise. *Knowle* (Blatch)
- *obtusata*, Gyll. On herbage and in moss, etc., in marshy places. *Sutton Park*, December (Blatch)
- Crepidodera transversa*, Marsh. On thistles

CYCLICA (*continued*)

- and other herbage in summer, hibernates at roots of plants; all localities
- Crepidodera ferruginea*, Scop. On nettles, etc., in summer; hibernates at roots of plants; all localities
- *helxines*, L. On willows, *sallows*, etc., from spring to autumn; amongst dead leaves and refuse in winter. *Knowle* (Blatch), *Stratford-on-Avon* (Bloom)
- *cyanea*, Marsh. By sweeping; summer. *Knowle*
- *chloris*, Foudr. On aspens and willows; spring to autumn. *Knowle* (Blatch)
- *aurata*, Marsh. On willows, *poplars*, etc.; all seasons; hibernates at roots of plants; all localities; abundant
- *smaragdina*, Foudr. On aspens, etc., in moss and leaves; found with the preceding
- Hippuriphila modeeri*, L. In boggy and damp places; all seasons. *Knowle*; *Sutton* (Blatch), *Coleshill*
- Chætocnema hortensis*, Fourc. On herbage and in moss, etc.; all seasons. *Knowle*; *Arley* (Blatch), *Stratford* (Bloom)
- Plectroscelis concinna*, Marsh. In moss, hedge rubbish, dead leaves, etc.; all seasons; all localities
- Psylliodes chrysocephala*, L. On Cruciferæ, etc.; spring to autumn. *Knowle*
- *chrysocephala* var. *anglica*, F. Found with the type
- *chrysocephala*, var. *nucea*, Ill. Found with the type
- *napi*, Koch. On Cruciferæ, etc.; spring to autumn. *Knowle*; *Salford Priors* (Blatch)
- *cuprea*, Koch. On Cruciferæ, etc.; spring to autumn. *Knowle* (Blatch)
- *affinis*, Payk. On *Solanum*, etc.; summer. *Tysoe*; *Knowle* (Blatch)
- *chalconera*, Ill. On *Circæa*; summer. *Knowle*
- *picina*, Marsh. On *Lythrum*, etc. *Knowle*

CRYPTOSOMATA

- Cassida sanguinolenta*, F. In flood refuse, etc.; all seasons. *Salford Priors*
- *flaveola*, Thunb. In moss, grass tufts, etc., in damp places; all seasons; all localities
- *viridis*, F. On thistles, in moss, etc.; all seasons; abundant in all localities

A HISTORY OF WARWICKSHIRE

TENEBRIONIDÆ

- Blaps mucronata*, Latr. In houses, cellars, etc.; all seasons. *Knowle*, *Small Heath* (Blatch), *Warwick*
- Scaphidema metallicum*, F. In flood refuse and under stones, etc.; all seasons. *Knowle* (Blatch), *Salford Priors*
- Tenebro molitor*, L. In houses and mills, in old flour; all seasons. *Birmingham*; *Haseler* (Blatch)
- *obscurus*, F. In old flour, etc.; all seasons. *Birmingham* (Blatch)
- Alphitobius piceus*, Ol. In flour bins, mills and granaries; all seasons. *Small Heath*, *Birmingham* (Blatch)
- Gnathocerus cornutus*, F. In flour, etc.; all seasons. *Small Heath* (Blatch), *Birmingham*
- Trilobium ferrugineum*, F. In flour, corn, etc.; all seasons. *Small Heath* (Blatch), *Birmingham*
- *confusum*, Duv. In flour, etc.; all seasons. *Small Heath*, *Birmingham* (Blatch)
- Helops striatus*, Fourc. Under bark, in moss, etc.; all seasons; abundant in all localities

LAGRIIDÆ

- Lagria hirta*, L. On flowers and herbage; summer. *Knowle* (Blatch), *Warwick*, *Stratford-on-Avon*

MELANDRYIDÆ

- Tetratoma desmaresti*, Latr. Under bark, etc. *Knowle*
- Orchesia micans*, Panz. In Polypori on old trees. *Knowle*
- Conopalpus testaceus*, Ol. By beating old trees. *Knowle*
- Malandrya caraboides*, L. Under willow bark and on old posts and fences. *Knowle*, June 1870 (Blatch)
- Anisoxya fuscula*, Ill. In dead twigs, etc. I find a note by the late Mr. Blatch giving *Warwick* as a locality for this species. No specimens are however preserved in his collections from this place

PYTHIDÆ

- Salpingus castaneus*, Panz. Amongst dead leaves in fir woods; in moss at margins of bogs bordered by woods; all seasons. *Coleshill*; *Sutton* (Blatch), *Knowle*
- *ætatus*, Müll. Under bark, on fences, windows, etc.; all seasons. *Knowle*

- Salpingus ater*, Payk. The late Mr. Blatch records this species from *Knowle*, but Canon Fowler seems to think it referable to the last species
- Lissoderma quadripustulata*, Marsh. Under bark; all seasons. *Small Heath*; *Knowle* (Blatch), *Salford Priors*
- Rhinosimus ruficollis*, L. Under bark; all seasons. *Edgbaston*; *Sutton* (Blatch), *Knowle*
- *viridipennis*, Steph. Under bark; all seasons; all localities
- *planirostris*, F. Under bark, dead leaves, moss, etc.; all seasons; occurs in all localities

OEDEMERIDÆ

- Oedemera lurida*, Marsh. On flowers, etc.; spring and summer. *Stratford-on-Avon* (Bloom)
- Ischnoglossa cœrulea*, L. By sweeping, etc.; summer. *Leamington* (Blatch)

PYROCHROIDÆ

- Pyrochroa serraticornis*, Scop. On flowers and herbage; summer; found in all localities

MORDELLIDÆ

- Anaspis frontalis*, L. On flowers and herbage; spring to autumn; all localities
- *pulicaria*, Costa. On flowers, etc.; summer. *Knowle*
- *rufilabris*, Gyll. On flowers, etc.; summer. *Solihull*; *Sutton* (Blatch), *Knowle*
- *geoffroyi*, Müll. On flowers, etc.; summer; abundant in all localities
- *ruficollis*, F. On whitethorn and other flowers; summer; all localities
- *flava* var. *thoracica*, L. On flowers, etc. *Knowle* (Blatch)
- *subtestacea*, Steph. On flowers, etc.; spring to autumn. *Knowle* (Blatch)
- *maculata*, Fourc. On flowers, etc.; spring to autumn; all localities

ANTHICIDÆ

- Anthicus floralis*, L. In hotbeds, stack refuse, etc.; all seasons; abundant in all localities
- *floralis* var. *quisquilius*, Thoms. Habitat and distribution same as the preceding, but not so abundant
- *antherinus*, L. In moss and vegetable refuse and on flowers and herbage. Not abundant, but found in all parts of the midlands

INSECTS

MELOIDÆ

- Meloe proscarabæus*, L. In sandy places ; spring ; occurs in suitable spots throughout the midlands
 — *proscarabæus* var. *cyaneus*, Muls. Spring. *Sutton Park* (Blatch)
 — violaceus, Marsh. On heaths, commons, etc. ; spring. *Knowle* ; *Sutton* (Blatch)
 — *cicatricosus*, Leach. *Stratford-on-Avon* (Bloom)
Sitaris muralis, Forst. In and near bees' nests (*Anthophora*). This species has been recorded from '*Warwickshire*' by Stephens.

ANTHRIBIDÆ

- Brachytarsus varius*, F. In dead wood and on old trees, etc. ; summer. *Knowle* (Blatch)
Platyrhinus latirostris, F. In fungus (*Sphæria*, etc.), on ash trees ; spring. *Salford Priors* (Blatch)
 — *Choragus sheppardi*, Kirby. On old trees, twigs and stumps ; summer. *Salford Priors* (Blatch)

CURCULIONIDÆ

ATTELABINA

- Apoderus coryli*, L. On hazels in woods, occasionally on elms ; spring to autumn. *Knowle*
Attelabus curculionoides, L. On young oaks in woods ; spring to autumn. *Knowle*, *Sutton Park*

RHYNCHITINA

- Rhynchites æquatus*, L. On whitethorn blossom, etc. ; spring and summer. *Knowle*, *Coleshill*
 — *æneovirens*, Marsh. On young trees in and near woods ; summer. *Knowle*
 — *cœruleus*, De G. On apple, pear, whitethorn, etc. *Knowle* (Blatch)
 — *minutus*, Herbst. On undergrowth in woods ; summer. *Knowle* ; *Leamington* (Blatch)
 — *interpunctatus*, Steph. On young trees in woods. *Knowle*
 — *pauillus*, Germ. Young oaks and hazels. *Knowle* (Blatch)
 — *nanus*, Payk. On birch trees ; summer. *Knowle*
 — *uncinatus*, Thoms. On birch, hazel, aspen, etc. ; summer. *Knowle* (Blatch), *Solihull*
 — *pubescens*, F. On oak, birch, etc., in woods ; summer. *Knowle* ; *Coventry* (Blatch), *Hay Woods*

RHYNCHITINA (continued)

- Deporaus megacephalus*, Germ. On birches, hazels, etc., in woods ; spring to autumn. *Knowle*
 — *betulæ*, L. On undergrowth in woods, etc. ; spring to autumn ; all localities

APIONINA

- Apion pomonæ*, F. On Leguminosæ, in moss, etc. ; all seasons. Occurs throughout midlands
 — *craccæ*, L. On *Vicia cracca*, etc. ; spring to autumn. *Knowle*
 — *subulatum*, Kirby. On Leguminosæ, etc. ; summer. *Knowle* (Blatch)
 — *ulicis*, Forst. On furze (*Ulex*) ; spring to autumn ; found in all localities where furze grows
 — *genestæ*, Kirby. On dyer's weed (*Genista tinctoria*). *Knowle* (Blatch)
 — *miniaturum*, Germ. On docks (*Rumex*), in moss, etc. ; all seasons ; all localities
 — *hæmatodes*, Kirby. On sorrel, etc., and in moss ; all seasons. *Knowle*
 — *rubens*, Steph. On sorrel, docks, etc. ; summer. *Knowle* (Blatch)
 — *pallipes*, Kirby. On dog mercury (*Mercurialis perennis*), etc. *Knowle*
 — *viciæ*, Payk. On *Vicia cracca* ; summer and autumn ; all localities
 — *difforme*, Germ. In moss, etc., under broom and on *Polygonum hydropiper*, etc. ; all seasons. *Knowle*
 — *apricans*, Herbst. On clover, in moss, etc. ; all seasons ; all localities
 — *assimile*, Kirby. Habitat and distribution same as preceding
 — *trifolii*, L. On herbage, in moss, etc. ; all seasons ; all localities
 — *dichroum*, Bedel. On clover, meadow sweet, at roots of plants, etc. ; all seasons ; all localities
 — *nigritarse*, Kirby. On *Trifolium*, etc., and in moss ; all seasons ; all localities
 — *hookeri*, Kirby. On the unopened buds of flowers, wild camomile, coltsfoot, anthyllis, etc., and in moss, cowshed refuse in winter ; all seasons. *Knowle*, *Kingswood*
 — *æneum*, F. On mallows, in moss ; all seasons ; all localities
 — *radiolus*, Kirby. On mallows, tansy, etc., and in moss ; all seasons ; all localities
 — *onopordi*, Kirby. On the onopord and other thistles, etc. ; spring to autumn ; all localities
 — *carduorum*, Kirby. On thistles, in moss ; all seasons ; all localities

A HISTORY OF WARWICKSHIRE

APIONINA (*continued*)

- Apion virens*, Herbst. On Leguminosæ, in moss, grass tufts, etc.; all seasons; all localities
- *pisi*, F. On broom and various other plants; all seasons; all localities
- *æthiops*, Herbst. On vetches, etc., often found in moss, etc., on hedge banks; all seasons; all localities
- *filirostre*, Kirby. By sweeping herbage and in moss; all seasons. *Knowle*
- *striatum*, Kirby. On the rest-harrow (*Ononis*), at the roots of the plants in winter; all seasons; occurs in all localities where the food plant grows
- *ononis*, Kirby. On *Ononis spinosa*; all seasons. *Salford Priors* (Blatch)
- *ervi*, Kirby. On *Vicia*, *Lathyrus*, etc., and in moss; all seasons; all localities
- *vorax*, Herbst. On Leguminosæ, in moss, hedge refuse, etc.; all seasons; all localities
- *unicolor*, Kirby. On *Vicia cracca*, in moss, etc.; all seasons; all localities
- *meliloti*, Kirby. On *Melilotus arvensis*, etc.; summer. *Knowle*
- *scutellare*, Kirby. On furze, in moss, etc.; all seasons. *Knowle*; *Sutton* (Blatch)
- *livescerum*, Gyll. On vetches (*Onobrychis*, etc.), by sweeping, etc.; summer. *Knowle*
- *seniculum*, Kirby. On trefoils, in moss, hotbeds, etc.; all seasons; all localities
- *loti*, Kirby. On *Lotus corniculatus*; summer; in grass tufts in pastures in winter. *Knowle*
- *tenue*, Kirby. On *Melilotus officinalis*, *Anthyllis* and in moss; all seasons. *Knowle* (Blatch)
- *pubescens*, Kirby. On willows, in moss, etc.; all seasons. *Solihull* (Blatch), *Knowle*
- *marchicum*, Herbst. On sorrel, etc., by sweeping; spring to autumn. *Knowle*; *Sutton* (Blatch), *Solihull*
- *violaceum*, Kirby. On docks, sorrel, etc., and in moss, etc.; all seasons; all localities
- *hydrolapathi*, Kirby. On docks, in moss; all seasons; all localities
- *humile*, Germ. On sorrel, in moss, etc.; all seasons; all localities

OTIORRHYNCHINA

- Otiorrhynchus tenebricosus*, Herbst. In moss, under stones, etc.; all seasons. *Salford Priors* (Blatch)
- *ligneus*, Ol. In moss, grass roots, under

OTIORRHYNCHINA (*continued*)

- stones, etc.; all seasons. *Stratford-on-Avon* (Bloom)
- Otiorrhynchus picipes*, F. On young trees and herbage, in moss, etc.; a common garden pest; all seasons; abundant everywhere
- *sulcatus*, F. At roots of plants, in moss, etc.; all seasons; all localities
- *ovatus*, L. In moss, at roots of plants, etc.; all seasons. *Knowle* (Blatch)
- *muscorum*, Bris. In moss, under stones, etc.; all seasons. *Knowle*
- Strophosomus coryli*, F. On young trees, in moss, etc.; all seasons; all localities
- *capitatus*, De G. On young trees, in moss, etc.; all seasons; all localities
- *retusus*, Marsh. On furze, heath, etc.; spring and summer. *Sutton* (Blatch), *Knowle*
- Exomias araneiformis*, Schr. In moss and herbage; all seasons; abundant in all localities
- *pellucidus*, Boh. In moss, etc.; all seasons. *Knowle* (Blatch)
- Brachysomus echinatus*, Bousd. In moss and hedge rubbish; all seasons. *Knowle* (Blatch)
- Sciaphilus muricatus*, F. In moss, hedge rubbish, etc.; all seasons; all localities
- Tropiphorus tomentosus*, Marsh. On *Mercurialis perennis*, in moss, etc.; all seasons. *Knowle* (Blatch)
- Liophlœus nubilus*, F. On young trees, in moss, etc.; all seasons. *Knowle*
- Polydrusus tereticollis*, De G. On young trees, especially in woods; spring to autumn; all localities
- *pterygomalis*, Boh. On young trees in woods; summer. *Knowle*
- *cervinus*, L. On young trees; in woods and hedges; spring to autumn; all localities
- Phyllobius oblongus*, L. On trees and shrubs; spring to autumn; all localities
- *calcaratus*, F. On alders and occasionally other trees; spring and summer. *Knowle*
- *urticæ*, De G. On nettles; spring and summer; all localities
- *pyri*, L. On various trees in woods and hedges; spring and summer; all localities
- *argentatus*, L. On birch, oak, white-thorn, etc.; spring and autumn; all localities
- *maculicornis*, Germ. On various trees in and near woods. *Knowle*

INSECTS

OTIORRHYNCHINA (*continued*)

- Phyllobius pomonæ*, Ol. On young trees.
Knowle
- *viridiæris*, Laich. On nettles and various trees, in moss, etc.; all seasons; all localities
- Barynotus obscurus*, F. Under stones, at roots of plants and in moss; all seasons; all localities
- *elevatus*, Marsh. In sandy places, under stones, etc.; all seasons.
Knowle (Blatch)
- Alophus triguttatus*, F. In sandy places, under stones, etc., also in moss and herbage; all seasons. *Salford Priors* (Blatch), *Knowle*

CURCULIONINA

- Sitones cambricus*, Steph. In moss; at roots of grass in marshy places; all seasons. *Earlswood, Tanworth, Solihull* (Blatch), *Knowle*
- *regensteniensis*, Herbst. On gorse and broom and at roots of grass, in moss, etc.; abundant in all localities
- *tibialis*, Herbst. On broom, in moss, etc.; all seasons; all localities
- *hispidulus*, F. On clover, broom, etc., and in moss; all seasons; all localities
- *humeralis*, Steph. On Leguminosæ, etc.; summer. *Knowle*
- *flavescens*, Marsh. On clover, etc.; summer. *Small Heath* (Blatch), *Knowle*
- *flavescens* var. *longicollis*, Fahr. On clover, etc.; summer. *Knowle*
- *puncticollis*, Steph. On clover, vetches, etc., and in moss; all seasons. *Knowle*
- *suturalis*, Steph. On Leguminosæ, etc., and in moss; all seasons. *Knowle*
- *lineatus*, L. On peas, beans and other plants, in moss, etc.; all seasons; all localities
- *sulcifrons*, Thunb. In clover fields, moss, etc.; all seasons; all localities
- Hypera punctata*, F. Amongst herbage, in moss, hedge refuse, etc.; all seasons; all localities
- *rumicis*, L. On docks, in moss, etc.; all seasons; all localities
- *polygoni*, L. On the corn-spurrey (*Spergula arvensis*, etc.); all localities
- *suspiciosa*, Herbst. On trefoils, etc., and in moss; all seasons. *Knowle* (Blatch), *Coleshill*
- *variabilis*, Herbst. On trefoil, vetches, broom, etc.; spring to autumn. *Knowle* (Blatch)
- *trilineata*, Marsh. On Leguminosæ, etc.; summer. *Knowle* (Blatch)

CURCULIONINA (*continued*)

- Hypera nigrirostris*, F. On clover and other plants, in moss, hedge refuse, hot-beds, etc.; all seasons; all localities
- Cleonus sulcirostris*, L. On thistles; spring to autumn. *Knowle* (Blatch)
- Liosoma ovatum*, Clairv. In moss, grass roots, hedge refuse, etc.; all seasons; all localities
- *ovatum* var. *collaris*, Rye. Found with the type, but much scarcer and more attached to boggy places. *Tysoe; Coleshill* (Blatch), *Knowle*
- *oblongulum*, Boh. In moss and amongst dead leaves in woods; all seasons.
Knowle
- Hylobius abietis*, L. Amongst pines and firs; summer. *Edgbaston; Sutton* (Blatch) *Knowle*
- Orchestes quercus*, L. On oaks, under bark, in moss, dead leaves, etc.; all seasons; found freely in all parts of the midlands
- *alni*, L. On elm trees, in hedges, under bark, etc.; all seasons; all localities
- *alni* var. *ferrugineus*, Marsh. Found with the type form, but less abundantly
- *ilicis*, F. On oak and other trees; summer. *Knowle* (Blatch)
- *avellanæ*, Don. On oaks, etc.; summer. *Knowle* (Blatch)
- *fagi*, L. On beech trees, under bark, etc.; all seasons; all localities
- *rusci*, Herbst. On birch and other trees, especially in woods; spring to autumn; all localities
- *stigma*, Germ. On willows, etc.; spring to autumn; all localities
- *salicis*, L. On willows, etc.; spring to autumn; all localities
- Rhamphus flavicornis*, Clairv. On birch, willow, etc.; spring to autumn; all localities
- Grypidius equiseti*, F. On the horsetail (*Equisetum*); spring to autumn; throughout the midlands
- Erirrhinus acridulus*, L. In low meadows, margins of streams, rivers and ponds, at roots of plants, in moss, etc.; all seasons; abundant in all localities
- Thryogenes festucae*, Herbst. At roots of *Carex*, amongst reeds, etc.; on river banks, etc.; all seasons. *Leamington; Salford Priors* (Blatch)
- *nereis*, Payk. Amongst reeds in wet and boggy places; all seasons.
Knowle

A HISTORY OF WARWICKSHIRE

CURCULIONINA (*continued*)

- Thryogenes scirrhosus*, Gyll. Amongst reeds and in grass tussocks in bogs ; all seasons. *Sutton Park* (Blatch)
- Dorytomus vorax*, F. On poplars : often found in profusion hybernating under the bark ; all seasons ; all localities
- *tortrix*, L. On aspens, willows and poplars in summer ; under bark in winter. *Knowle* (Blatch), *Coleshill*
- *maculatus*, Marsh. On willows, etc. ; amongst leaves and refuse in wet places in winter ; all seasons ; abundant everywhere
- *maculatus* var. *costirostris*, Gyll. On aspens, etc. *Coleshill* (June)
- *melanophthalmus*, Payk. On willows ; autumn. *Knowle*
- *melanophthalmus* var. *agnathus*, Boh. On willows ; autumn. *Knowle*
- *pectoralis*, Gyll. On willows and at roots of plants ; all seasons. *Knowle* (Blatch)
- Tanysphyrus lemnae*, F. On duckweed (*Lemna*) and amongst refuse ; all seasons. *Knowle* ; *Coleshill* (Blatch)
- Bagous alismatis*, Marsh. On waterplantain, watercress, etc. *Knowle*
- Anoplus plantaris*, Naez. On young birches, etc. ; spring to autumn ; all localities
- *roboris*, Suffr. On alders, oaks, etc. *Knowle* (Blatch)
- Elleschus bipunctatus*, L. On young willows ; autumn. *Knowle* (Blatch)
- Tychius tomentosus*, Herbst. On vetches and other plants ; summer. *Knowle* (Blatch)
- Miccotrogus picirostris*, F. On herbage in pastures, in moss, etc. ; all seasons ; all localities
- Gymnetron villosulus*, Gyll. Amongst herbage on margins of watercourses, etc. *Knowle*. Also recorded from *Knowle* by Blatch, but no specimen is preserved in his collection
- *baccabungæ*, L. On *Veronica baccabunga* and other aquatic plants ; summer. *Knowle* ; *Tysoe* (Blatch), *Coleshill*
- Mecinus pyrastrer*, Herbst. On plantains, in moss, etc. ; all seasons ; all localities
- Anthonomus ulmi*, De G. On elms, etc. ; summer ; all localities
- *rosinæ*, Des Gozis. By beating hedges ; summer. *Knowle*
- *pedicularis*, L. On whitethorn and other trees. *Knowle* (Blatch)
- *pomorum*, L. On apple, pear and other trees ; summer ; all localities
- *rubi*, Herbst. By beating hedges, etc.,

CURCULIONINA (*continued*)

- during summer ; in moss and leaves in woods in winter ; all localities
- Cionus scrophulariæ*, L. On figworts (*Scrophularia*) ; summer. *Knowle* (Blatch), *Solihull*
- *hortulanus*, Marsh. On *Scrophularia* and *Verbascum* ; summer. *Knowle*
- *blattariæ*, F. Habitat same as preceding ; summer ; all localities
- *pulchellus*, Herbst. On *Scrophularia nodosa* ; summer ; all localities
- Orobites cyaneus*, L. On herbage and in moss ; all seasons. *Knowle* ; *Tysoe* (Blatch), *Coleshill*
- Cryptorrhynchus lapathi*, L. On willows, in osier beds, etc. ; summer. *Salford Priors*
- Cœliodes rubicundus*, Herbst. On young birches in woods and bogs ; amongst dead leaves, etc., in winter ; all seasons. *Knowle* ; *Sutton* (Blatch), *Coleshill*
- *quercus*, F. On young oaks ; amongst moss and leaves in woods ; all seasons. *Knowle* ; *Sutton* (Blatch)
- *ruber*, Marsh. On young oaks and amongst dead leaves in woods ; all seasons. *Knowle*
- *erythroleucus*, Gmel. On oaks, etc., in and near woods, and moss and dead leaves in winter ; all seasons. *Knowle*, *Coleshill*
- *cardui*, Herbst. On herbage, in moss, flood refuse, etc. ; all seasons. *Knowle*
- *quadrinotatus*, L. On the stinging nettle, in moss and herbage ; all seasons ; all localities
- Poophagus sisymbrii*, F. On *Nasturtium amphibium* ; on margins of brooks and ponds, etc. ; summer ; fairly plentiful throughout midlands
- Ceuthorrhynchus assimilis*, Payk. On *Cruciferae*, in moss and herbage ; all seasons ; all localities
- *cochleariæ*, Gyll. On *Cochlearia* and *Cardamine* in wet places ; all seasons. *Knowle* (Blatch)
- *ericæ*, Gyll. On heath and ling and in moss, etc. ; all seasons. *Coleshill* ; *Sutton* (Blatch)
- *erysimi*, F. On *Cruciferae*, in moss, etc. ; all seasons ; all localities
- *erysimi* var. *chloropterus*, Steph. Found with the type form
- *contractus*, Marsh. On *Cruciferae*, in moss, etc. ; all seasons ; all localities
- *quadridens*, Panz. On *Cruciferae*, in moss, etc. ; all seasons. *Knowle* (Blatch), *Coleshill*

INSECTS

CURCULIONINA (*continued*)

- Ceuthorrhynchus pollinarius*, Forst. On the stinging nettle, in moss, etc.; all seasons; abundant in all places
- *pleurostigma*, Marsh. On *Cruciferae*, in moss, etc.; all seasons; all localities
- *marginatus*, Payk. On flowers and herbage; summer. *Knowle* (Blatch)
- *rugulosus*, Herbst. In moss and herbage; all seasons. *Solibull*
- *euphorbiæ*, Bris. On spurge (*Euphorbia*), etc. *Knowle*
- *chrysanthemi*, Germ. On the ox-eye daisy, etc.; summer. *Knowle* (Blatch)
- *litura*, F. On thistles, etc.; summer; all localities
- Ceuthorrhynchidius floralis*, Payk. On *Cruciferae*, etc.; summer; all localities
- *nigrinus*, Marsh. In herbage in wet places. *Sheldon*
- *melanarius*, Steph. Amongst herbage and moss, etc., in wet places; all seasons. *Knowle*; *Salford Priors* (Blatch)
- *quercicola*, Payk. On herbage and in moss. *Knowle* (Blatch)
- *troglydites*, F. On plantains and herbage in pastures; all seasons; abundant in all localities
- Rhytidomus globulus*, Herbst. On aspens; summer; taken by the late Mr. Blatch and the author in woods near *Knowle*
- Amalus hæmorrhous*, Herbst. On herbage, in moss, etc.; all seasons. *Salford Priors* (Blatch), *Knowle*
- Rhinoncus pericarpus*, L. On knot grass, dock, thistles, etc.; all seasons; all localities
- *gramineus*, Herbst. At roots of plants, in vegetable refuse, etc.; all seasons. *Coleshill*; *Sutton* (Blatch), *Knowle*
- *perpendicularis*, Reich. In bogs and damp meadows; all seasons. *Knowle*; *Sutton* (Blatch), *Kingswood*, *Coleshill*
- *castor*, F. At roots of grass and amongst herbage; all seasons. *Sutton Coldfield*
- Phytobius comari*, Herbst. Grass tussocks, moss, etc., in bogs; all seasons. *Coleshill*; *Sutton* (Blatch)
- *quadrituberculatus*, F. In bogs and marshy places, in moss, etc.; all seasons; all localities
- *canaliculatus*, Fahr. Marshy places. *Knowle* (June)
- *quadricornis*, Gyll. Marshy places. *Sutton Coldfield*
- Limnobaris T-album*, L. In grass tussocks, axils of reeds and flags, in moss, etc.,

CURCULIONINA (*continued*)

- in bogs and marshy places; all seasons. *Coleshill*; *Sutton* (Blatch)
- Balaninus venosus*, Grav. On oaks in woods; summer. *Knowle*
- *nucum*, L. On hazel in woods; summer. *Knowle*
- *turbatus*, Gyll. On oak, hazel, etc.; summer. *Knowle*
- *villosus*, F. On oaks and hazels in summer; flood refuse in winter. *Knowle*; *Sutton* (Blatch)
- *salicivorus*, Payk. On willows; spring to autumn; all localities
- *pyrrhoceras*, Marsh. On oak, willow, hazel, etc.; spring to autumn; generally distributed
- Magdalis armigera*, Fourc. By beating; summer. *Knowle*
- *cerasi*, L. On blackthorn, etc.; summer. *Knowle*
- *pruni*, L. On blackthorn; summer; all localities

CALANDRINA

- Calandra granaria*, L. In granaries, flour, corn, etc.; all seasons. *Birmingham*; *Small Heath* (Blatch), *Knowle*
- *oryzæ*, L. In rice, wheat, flour, etc.; all seasons. *Birmingham* (Blatch), *Knowle*

COSSONINA

- Rhyncolus gracilis*, Ros. In birch twigs, on dry sticks, etc.; summer. *Small Heath* (Blatch)

SCOLYTIDÆ

- Scolytus destructor*, Ol. In elm, ash and other trees; all seasons. *Knowle*; *Salford Priors* (Blatch)
- *pruni*, Ratz. In apple trees. *Haseler* (Blatch), *Knowle*
- *multistriatus*, Marsh. In decaying trees, ash, apple, etc.; summer. *Knowle*
- Hylastes ater*, Payk. Under pine bark; summer. *Knowle*
- *opacus*, Er. In decaying wood, fir, elm, etc.; spring to autumn. *Knowle* (Blatch)
- *palliatu*s, Gyll. Under bark of spruce and other firs; all seasons. *Knowle*; *Sutton* (Blatch)
- Hylesinus crenatus*, F. In decaying ash trees. *Knowle* (Blatch)
- *oleiperda*, F. In dead ash trees. *Leamington* (A. G. Chitty), *Knowle*
- *fraxini*, Panz. In decaying ash trees; all seasons; all localities
- *vittatus*, F. In decaying elm, ash, etc.; *Compton Wyniat*es (Power), *Salford Priors* (Blatch)

A HISTORY OF WARWICKSHIRE

Myelophilus piniperda, L. In decaying firs, in dead leaves, etc. ; all seasons. *Knowle* ; *Sutton* (Blatch)

Xylocleptes bispinus, Duft. In the stems of *Clematis vitalba* ; summer. *Sutton Park* (Blatch)

Dryocætes villosus, F. Under oak bark ; all seasons ; abundant in the midlands — *alni*, Georg. Under bark of beech, etc. ; summer. Near *Yardley* (Blatch)

Pityogenes bidentatus, Herbst. Under fir bark and by sweeping amongst pines. *Sutton Park*

Trypodendron domesticum, L. In decaying wood of oak and other trees ; all seasons. *Sutton Park* (Blatch), *Knowle*

ABNORMAL COLEOPTERA

STYLOPIDÆ

Stylops melittæ, Kirby. Parasitic on bees (*Andrena*). The late Mr. Blatch was under the impression that he found a specimen on an *Andrena* captured at *Knowle*, but unfortunately it was not preserved

LEPIDOPTERA

The greater part of the following list needs no explanation ; a few notes on the authorities quoted are however necessary. Mention has already been made in the general introduction of the late Mr. W. G. Blatch. He is quoted constantly throughout this list in several ways. In the first place the lists in the *Handbook to Birmingham* for the use of the British Association, mentioned above, are referred to as *Brit. Assoc. Hand.* or 'W. G. Blatch Hand.' These records must be taken as fairly accurate but not absolutely trustworthy, owing to the fact that to some extent they were compiled from sources not always quite sound ; moreover I am afraid they were rather hastily put together without sufficient examination. The greater part of the records quoted on his authority have however been made after personal examination of his collection, and have only been given when the specimen is actually there and is labelled. These are probably accurate, as Mr. C. G. Barrett went through the collection not long before Mr. Blatch's death. These are referred to as 'Blatch Coll.' Mr. Blatch also left a MS. catalogue of a portion of his collection, made as the specimens were taken in his earlier days. Many of these specimens do not now exist in his cabinets ; and many mistakes occur, as the notes were usually made at the time, but whereas the identification was frequently corrected afterwards the catalogue was not always corrected. This is occasionally quoted as 'Blatch Cat.' In a few cases I have records personally conveyed to me, and those are simply quoted 'W. G. Blatch.' The Rugby School Natural History Society Reports referred to above are usually referred to simply as 'Rugby Lists.' When a record occurred only once the date is put afterwards. These records must be accepted with much reserve. They are for the most part merely schoolboys' records and naturally very untrustworthy. I hesitated for some time about employing them at all, but as no other account of that part of the county was procurable they have been quoted when other evidence of the species occurring in the county has not been forthcoming. Many absurd errors occur which make one distrustful of the whole list ; but no schoolboy is likely to be wrong about a species like *Zeuzera pyrina*, L., which is mentioned in nearly every report. While therefore excluding the most improbable ones I have

INSECTS

thought it worth while to give all those most likely to be correct in order to give a better idea of distribution inside the county. Even for this purpose the lists are rather unsatisfactory, as unfortunately exact localities are not always given, and Rugby may mean some place 10 miles away, perhaps not even in Warwickshire, as Rugby is so near the border. Several of the contributors to the reports were masters and others whose records are much more reliable, such as the Rev. A. H. Wratislaw, Messrs. J. M. Furness, A. and N. V. Sidgwick, and I have usually quoted their names in addition. Mr. F. Enock's Lists in *Proceedings of Birmingham Natural History and Microscopical Society* referred to in the general introduction are quoted as 'F. Enock, List,' 1869 or 1870; and the brief popular account he gave in the *Saturday Half-Holiday Guide* as F. Enock, *Saturday Guide*. It should be pointed out that even though they may have been accurate, some of the records of Messrs. F. Enock and W. G. Blatch in these older publications were correct only for the time when they were written, and the insects referred to cannot always be found still in the same places. Of the other authorities most of them explain themselves. I have had opportunities of examining Messrs. R. C. Bradley's and H. W. Ellis' collections and have had lists supplied to me by Messrs. C. Baker, W. Kiss, W. C. E. Wheeler and N. V. Sidgwick, Dr. P. P. Baly and Rev. W. Bree, and all their records are taken from those lists. Rev. J. H. Bloom collected information specially for me for purposes of this work, and sent to me the records of Mr. Austen and Mr. L. C. Keighley-Peach. I have had no opportunity of seeing any of the specimens recorded by them. Most of the remainder of the records have been given either personally or have been obtained through specimens shown at meetings of the Birmingham Entomological Society, and have been gradually accumulated, a few only having been obtained, after much search, from the magazines, etc. The list will be found a poor one, especially in the smaller and more obscure groups, but this is not surprising seeing that the county has never had a collector who has given his undivided attention to the whole of the Lepidoptera. Mr. Blatch was primarily a coleopterist and Mr. R. C. Bradley has given most of his time to Diptera and Aculeate Hymenoptera, and few of the others have ever studied any but the Macro-Lepidoptera. I myself am not a lepidopterist, but have given most of my time to a few groups of the Diptera. Some years ago however I gave a little attention to the Lepidoptera, when like too many others I took little notice of the 'Micros,' of which I know very little, so that that part of the following list is chiefly compilation. Where no authority is quoted for a record, I am myself responsible.

The chief places quoted are situated, roughly speaking, as follows : Sutton on the north-west border line ; Birmingham also on the border line a little further south ; Moseley, Small Heath, Yardley and Stechford, all suburbs of Birmingham, on the south or south-east side (Moseley and Yardley themselves being actually just over the border) ; Marston Green, Knowle, Solihull, Olton, Hampton-in-Arden, Coleshill and Hay Woods,

A HISTORY OF WARWICKSHIRE

all in the west of the county ; Alcester, Haselor and Salford Priors in extreme south-west ; Whitchurch, Wolford, Idlicote, Wellesbourne, Ettington, all nearly south ; Rugby in the extreme east ; Atherstone on the north-east border ; Brandon, Coombe, Waveney and Frankton Woods all in the eastern parts of the county ; and Coventry, Warwick, etc., almost in the centre. A glance at the map will show that most of the places where the majority of our records have been made happen to be on or very near the border line of the county.

The total number of species recorded is only 813, excluding doubtfully accurate ones, a very poor number which could easily be added to by a little attention to the smaller species. There are 46 butterflies, of which 6—*Aporia crataegi*, *Vanessa Antiopa*, *Nemeobius lucina*, *Lycæna Argus*, *L. Coridon*, and *L. semiargus*—have no good claim to be considered Warwickshire insects. The larger species, Noctuidæ, Geometridæ, etc., of the old lists are fairly well represented, whilst the greater number of blanks will be found in the old families Tortricidæ and Tineidæ.

I have adopted for this list the classification and nomenclature of Staudinger and Rebel's last catalogue without change, although I do not think that it by any means reaches the high water mark of modern entomological progress. I have given synonyms according to no regular system, quoting only those which it seemed to me would be helpful to make clear the species intended.

PIERIDÆ

Aporia crataegi, L. Never seems to have been a native of this county. The Rev. W. Bree once took a single specimen at *Allesley*, and Mr. W. C. E. Wheeler says he has an old specimen of his father's which he believes was taken at *Wolford*

Pieris brassicæ, L. Common everywhere

— *rapæ*, L. " "

— *napi*, L. " "

Euchloë cardamines, L. " "

Leptidia (*Leucophasia*) *sinapis*, L. Very rare ; I know of no recent captures. Mr. W. G. Blatch (*Brit. Assoc. Hand.*) says : 'Occasionally in woods near *Knowle*.' It occurs in Mr. F. Enock's list, 1869, probably referring to the same place ; and in the Rugby list for 1874 (H. Vicars)

Colias *Hyale*, L. Very rare ; only casuals have occurred. *Edgbaston Reservoir* (one in 1868, F. Enock ; mentioned in Newman's) ; *Rugby* (W. S. Edmonds, Rugby list, 1888) ; near *Birmingham* (G. H. Kenrick, *E.M.M.* 1868, p. 107) ; *Wolford Woods* (several in 1900, Austen)

Colias *Edusa*, F. We get our share of the occasional immigrations of this species, although being so far in-

land it is never abundant with us. It is very rarely seen excepting in the big *Edusa* years. I have records from *Bentley Heath* (A. H. Martineau) ; *Meriden* (one = 1892, G. W. Wynn) ; *Knowle* (W. Kiss, W. G. Blatch Hand., J. T. Fountain) ; *Yardley* and *Coleshill* (W. G. Blatch Hand.) ; *Marston Green* (Blatch Cat.) ; *Allesley* (occasionally, W. Bree) ; *Warwick* (common in 1877, but never seen since ; two of var. *Helice* amongst them, P. P. Baly) ; *Atherstone* (C. Baker) ; *Wolford Woods* (plentiful in 1900, Austen) ; *Whitchurch* (J. H. Bloom) ; *Sutton Coldfield* (J. W. Moore Entom., 1892) ; *Wolford* (common in 1877 ; also var. *Helice*, W. C. E. Wheeler) ; *Rugby* (Lucas, *E.M.M.* 1892, p. 266) ; several records in Rugby lists in years 1867, 1877, 1889, 1892, including one var. *Helice* at *Overslade* (J. M. Furness, 1892), etc.

Gonepteryx rhamni, L. Throughout the county

NYMPHALIDÆ

NYMPHALINÆ

Apatura Iris, L. Very rare. I have never seen a Warwickshire specimen, but

INSECTS

NYMPHALINÆ (continued)

- have the following records for it: *Ettington Park* (one, some time since, J. H. Bloom); *Wolford* (frequently seen, a few taken years ago by my father, W. C. E. Wheeler); *Oakley Woods* (is said to have been taken there, but have never seen it there, or a specimen from there, P. P. Baly). Mr. W. G. Blatch speaks of its occurrence in woods near *Coventry* and *Leamington*, on what authority I do not know (*Brit. Assoc. Hand.*; also *E.M.M.* 1887, p. 199); it occurs in Rugby list for 1888 (W. S. Edmonds), and Morris mentions its occurrence at *Anstey*
- Pyrameis Atalanta*, L. Occurs in every list from all parts of the county, and is sometimes abundant, but not generally. It seems very irregular in its appearance
- *cardui*, L. The same remarks apply to this as to the last species
- Vanessa Jo*, L. This species likewise occurs in every list I have received, but frequently with the remark 'not common.' I have not often seen it myself in the county
- *urticæ*, L. Common everywhere. One var. *polaris* *Small Heath* (A. D. Imms, *E.M.M.* 1901, p. 148)
- [— *l-album*, Esp. A specimen of this species is said to have been taken by Mr. B. May at *Henley-in-Arden* about 1877. The specimen was exhibited at a meeting of the Birmingham Ent. Soc., and the capture seemed genuine. It was probably an accidental importation]
- *polychloros*, L. Rare; there seems to be a general opinion that it is rarer now than it used to be. *Sutton* (one, R. C. Bradley; one, C. J. Wainwright); *Knowle* (W. Kiss, Blatch Hand.); *Allesley* (scarce, W. Bree); *Warwick* (but not noticed lately, P. P. Baly); *Wolford* (used to be common, but now almost gone, W. C. E. Wheeler); *Rugby*, *Overslade*, etc. (Rugby lists, several records). Newman quotes, 'not uncommon (W. G. Colbourne); *Stratford-on-Avon* (W. G. Colbourne); *Rugby* (A. H. Wratislaw)'; and Morris gives *Anstey*
- *Antiope*, L. I have the following records: *Sutton Park* (one, Titley); *Warwick* (one taken by C. S. H.

NYMPHALINÆ (continued)

- Perceval*, Aug. 22, 1872; *Entom.* Dec. 1872); *Coombe Wood* near *Rugby* (one, H. Vicars, Rugby list, 1874); *Birmingham* near *Cannon Hill Park* (one, R. C. R. Jordan, *E.M.M.* 1880, p. 113); *Warwick* (one taken by a lady and recorded by E. G. Baldwin, *E.M.M.* i. 213)
- Polygonia c-album*, L. Fairly generally distributed, but never abundant. I have however many records for it, and W. G. Blatch says (*Brit. Assoc. Hand.*) that it is sometimes seen even in the streets of *Birmingham*
- Melitæa aurinia*, Rott. (*Artemis*, Hb.). Rare; here and there small colonies in very restricted areas. *Knowle* (R. C. Bradley, Blatch Hand.); *Umberslade* (J. T. Fountain); *Allesley* (once only, W. Bree); *Wolford* (very local, one or two fields only, W. C. E. Wheeler); *Brandon Woods* (Rugby lists); Morris quotes *Coleshill* and *Coventry*. It used to occur in *Sutton Park*, but on draining the marshes to build the railway through it its haunts were destroyed, and the last time it was heard of was in 1882, when a few specimens were taken by E. C. Tye
- [— *cinxia*, L. Morris recorded the capture of a specimen at *Leamington* by Mr. Walhouse; doubtless an error]
- Argynnis Selene*, Schiff. Common in many of the larger woods. *Marston Green* (E. C. Tye, G. W. Wynn); *Knowle* (W. Kiss, Blatch Hand., etc.); *Coleshill Pool* (W. Bree); *Sutton Coldfield* (Stainton in *Manual*); *Rugby* = *Brandon Woods*, *Princethorpe*, etc. (Rugby lists); *Wolford* (W. C. E. Wheeler); *Coombe* (G. B. Longstaff, *E.M.M.* 1866, p. 138)
- *Euphrosyne*, L. Distributed more widely than the above. *Marston Green* (E. C. Tye, G. W. Wynn); *Knowle* (R. C. Bradley, Blatch Hand., etc.); *Coventry* (G. H. Kenrick); *Sutton* (one in garden, R. C. Bradley); *Hay Woods* (H. W. Ellis); *Corley* (abundant formerly in woods at *Corley*; none seen for many years, W. Bree); *Oakley* and *Hay Woods* (very common, P. P. Baly); *Rugby* = *Brandon Woods*, *Princethorpe*, etc. (Rugby lists); *Atherstone* (C. Baker); *Wolford Woods* (Austen and W. C. E. Wheeler); *Coombe* (G. B. Longstaff, *E.M.M.* 1866, p. 138)

A HISTORY OF WARWICKSHIRE

NYMPHALINÆ (continued)

[Argynnis Dia, L. It was at *Sutton Park* that this species was supposed to have been taken by Weaver, and it was also in this county at *Leamington* that A. Aphrodite, an American species, I believe, was supposed to have been taken by Mr. Walhouse as recorded by Morris]

— *Aglaja*, L. Rare. Occurs at *Wolford Woods* (Austen and W. C. E. Wheeler); is quoted two or three times in the Rugby lists from *Brandon Woods*; the Rev. W. Bree records it from *Coleshill Pool*, near to which E. C. Tye believes he took it some years ago; and W. G. Blatch gives *Knowle* in *Brit. Assoc. Hand.* I have never seen a Warwickshire specimen myself, and there is not much ground suitable to it

— *Adippe*, L. Not uncommon in some of the larger woods. *Coombe Woods* (W. Bree and G. B. Longstaff, *E.M.M.* 1866, p. 138); *Rugby* = *Brandon Woods*, etc. (Rugby lists, and G. B. Longstaff in Newman's); *Wolford Woods* (Austen, W. C. E. Wheeler); *Marston Green* (E. C. Tye); *Knowle* (C. J. Wainwright, Blatch Hand.); *Earlswood* (A. D. Imms)

— *Paphia*, L. Found with *Adippe* as a rule, not uncommon in most suitable places. *Wolford Woods* (Austen and W. C. E. Wheeler); *Coombe Woods* (G. B. Longstaff, *E.M.M.* 1866, p. 138); *Rugby* = *Brandon Woods*, etc. (Rugby lists); *Atherstone* (C. Baker); *Chesterton Wood* and *Oakley Wood* near *Warwick* (common, P. P. Baly); *Corley* (abundant formerly, none seen for many years, W. Bree); *Brandon* (W. Bree, 1900); *Knowle* (Blatch Hand.); *Marston Green* (E. C. Tye believes he took it there); *Sutton Park* (A. D. Imms records it as common in the *Park*, see *Entom.* 1898, p. 43; Mr. Bradley and I however have collected in the very spot many times and have never seen or heard of it there)

SATYRINÆ

Melanargia Galathea, L. Not common; is recorded from *Alcester* (R. C. Bradley and Blatch Cat.); *Knowle*; *Henley - in - Arden*, *Salford Priors* (W. G. Blatch, *E.M.M.* 1887, p. 199, etc.); *Print Hill* and *Long Itchington* (W. Bree); *Warwick* (once,

SATYRINÆ (continued)

Baly); *Knowle* (in woods near, but not taken for many years, F. Enock in Newman's); *Weston Park* (one, Austen); *Wolford* (common in certain very restricted spots, does not occur every year, W. C. E. Wheeler). I have however not heard of any recent captures in several of the above localities

[*Satyrus Semele*, L. Has been recorded in the Rugby lists, but I doubt its occurrence in the county]

Pararge Aegeria, L. I believe not uncommon in woods, but I have few records: *Wolford* (W. C. E. Wheeler); *Warwick* (one, Baly); *Rugby* (many times in Rugby lists from different woods); and F. Enock in his list of insects occurring within ten miles of *Birmingham* gives it as common

— *Megea*, L. Common. *Warwick* (common, Baly); *Rugby* (Rugby lists many times); *Wolford Woods* (Austen); *Whitchurch* (J. H. Bloom); *Wolford* (W. C. E. Wheeler); *Sutton Park* (W. G. Blatch, *E.M.M.* 1887, p. 200)

Aphantopus (*Epinephele*) *Hyperantus* (*Hyperanthus*), L. Common in many places. *Hampton* (G. W. Wynn); *Knowle* (H. W. Ellis); *Atherstone* (C. Baker); *Oakley* and *Hay Woods* (in profusion, Baly); *Rugby* = *Brandon Woods*, etc. (Rugby lists); *Wolford* (Austen, W. C. E. Wheeler)

Epinephele Jurtina, L. (*Janira*). Common throughout the county

— *Tithonus*, L. Common. *Solihull* (A. H. Martineau); *Knowle* (W. Kiss); *Knowle* and *Shottery* (Blatch Cat.); *Warwick* (common, Baly); *Rugby* (Rugby lists); *Whitchurch* (common, J. H. Bloom); *Wolford* (W. C. E. Wheeler)

Cænonympha Pamphilus, L. Common in all suitable localities; very abundant in *Sutton Park*

ERYCINIDÆ

Nemeobius Lucina, L. Not usually found in Warwickshire, but W. C. E. Wheeler records it from *Wolford* just inside the county in the extreme south-west

LYCÆNIDÆ

Thecla w-album, Knock. *Wolford* (not common, W. C. E. Wheeler); *Brandon Woods* (four or five in

INSECTS

- 1888, N. V. Sidgwick); *Wolford Woods* (Austen); *Whitchurch* (frequent in garden, J. H. Bloom); *Atherstone* (C. Baker); *Brandon Woods* (N. W. Hudson, Rugby list, 1888); near *Warwick* (a dim recollection, P. P. Baly); *Knowle* (W. G. Blatch); *Haseler* near *Alcester* (Blatch Cat.); and Morris gives *Allesley*
- [*Thecla pruni*, L., was recorded in Blatch Hand. in error]
- Callophrys rubi*, L. Very local; common in *Sutton Park*, which is its best known haunt; also recorded from *Edgehill* (P. P. Baly); *Wolford* (W. C. E. Wheeler); *Allesley* (once only, W. Bree)
- Zephyrus quercus*, L. Fairly common. *Oakley Wood* (common most years, P. P. Baly); *Atherstone* (C. Baker); *Rugby* = *Brandon Woods*, etc. (Rugby lists); *Wolford Woods* (Austen, W. C. E. Wheeler); *Alveston* near *Whitchurch* (L. C. Keighley-Peach); *Coombe Wood* (G. B. Longstaff, *E.M.M.* 1866, p. 138); *Tile Hill Woods* (very abundant some years, W. Bree); *Corley Woods* (occasionally, W. Bree); *Knowle* (W. G. Blatch Hand.)
- [— *betulæ*, L. The only record of the capture of this species in the county is one by W. C. E. Wheeler, who says his father took it at *Wolford*. Mr. C. G. Barrett thinks it is not a likely Warwickshire insect, so that confirmation is desirable]
- Chrysophanus Phlæas*, L. Common everywhere
- Lycæna Argus*, L. (*Ægon*, Schiff). Very rare, and I have no satisfactory modern records. Newman gives it as occurring at *Coleshill Park* and neighbourhood and *Sutton Park* on the authority of F. Enock, and Morris also quotes *Coleshill Heath*. I fear however that it is gone from both these localities many years ago. It is also recorded from *Rugby* by Newman on the authority of G. B. Longstaff and by E. Solly (Rugby list, 1881)
- *Astrarche*, Bgstr. Not common. *Wolford* (W. C. E. Wheeler); *Rugby* (Rugby lists); and Morris says near *Birmingham*. I have not seen any county specimens
- *Icarus*, Rott. (Alexis, Hüb.) Common everywhere
- *Coridon*, Poda. This and *Bellargus*, Rott., cannot be regarded as Warwickshire insects, and as there is no chalk in the county they are scarcely to be expected. W. C. E. Wheeler however tells me that the former occurs within a few miles of *Wolford*. In this extreme south-west corner of Warwickshire however several insects have been found by him which are not characteristic of the county, and it may be partly owing to the fact that along the southern border Liassic rocks crop up, whereas most of the county consists of Triassic sandstones, etc. A single specimen of *Coridon* also is said to have been taken years ago at *Knowle*, as recorded in Morris, Newman and F. Enock's list. It was probably a straggler, but it may have been a survivor of a small colony, as there is a small outcrop of lias near, and the species seems sometimes associated with that formation as well as with chalk
- Lycæna minimus*, Fuessl. (Alsus, F.) *Wolford* (W. C. E. Wheeler, Austen, J. H. Bloom); *Stockton* (in fairly large numbers, June 22, 1901, on banks of a chalk pit where *Anthyllis* grows, D. T. Garrett, *Entom.* 1901, p. 229; also W. S. Edmonds, Rugby lists)
- *semiargus*, Rott. (Acis, Schiff.) Used to occur many years ago near *Birmingham*, but it is long since one was taken, and I do not know any one who possesses a local specimen. Its occurrence is referred to by Stainton, quoting Allis, who says that it had not been taken for several years then; by Morris, quoting W. Bree, who took one specimen in *Coleshill Park*; by W. G. Blatch in *Brit. Assoc. Hand.*; and by Newman, quoting F. Enock, who gives *Shirley* as the locality
- Cyaniris Argiolus*, L. Not uncommon. Occurs freely, and in some years in great abundance in *Sutton Park*, where are many very fine old hollies. So far as I know only the first brood ever appears there. It has also been recorded from *Knowle* (W. G. Blatch); *Allesley* (W. Bree and Morris); *Warwick* (one in High Street, P. P. Baly); *Rugby*, *Chorley Wood*, etc. (Rugby lists); *Yardley Wood*, *Shirley* and *Coleshill* (A. D. Imms, *Entom.* 1897, p. 319); *Atherstone* (C. Baker); *Wolford* (both

A HISTORY OF WARWICKSHIRE

broods in vicarage garden in 1896, W. C. E. Wheeler); *Coventry* (W. G. Blatch, *E.M.M.* 1887, p. 200)

HESPERIIDÆ

- Adopæa* (*Hesperia*) *Thaumas*, Hufn. (linea, F.) Not uncommon *Hay Woods* (H. W. Ellis); *Warwick* (P. P. Baly); *Rugby* = *Brandon Woods*, etc. (Rugby lists); *Ettington* (L. C. Keighley-Peach); *Wolford* (W. C. E. Wheeler)
- Augiades sylvanus*, Esp. Occurs in much the same places as above. *Marston Green* (G. W. Wynn); *Knowle* (H. W. Ellis); *Oakley Wood* near *Warwick* (one, P. P. Baly); *Rugby* = *Brandon Woods*, *Princethorpe*, etc. (Rugby lists); *Atherstone* (C. Baker); *Wolford Woods* (Austen, W. C. E. Wheeler); *Ettington* (L. C. Keighley-Peach); *Coombe Woods* (G. B. Longstaff, *E.M.M.* 1866, p. 138)
- Hesperia* (*Syrichthus*) *malvæ*, L. Similar distribution to the last two and similarly common. *Coventry* (G. H. Kenrick); *Hampton-in-Arden* (G. W. Wynn); *Knowle* (H. W. Ellis); *Corley Woods* (formerly, W. Bree); *Knowle* (W. Kiss, etc.); *Rugby* = *Brandon*, etc. (Rugby lists); *Atherstone* (C. Baker); *Ettington* (L. C. Keighley-Peach); *Wolford* (W. C. E. Wheeler)
- Thanaos Tages*, L., also occurs in the same places as the above three species. *Sutton Park* (H. M. Lee); *Coventry* (G. H. Kenrick); *Hampton-in-Arden* (G. W. Wynn); *Knowle*, *Umberslade* (Blatch Coll., W. Kiss, etc.); *Corley Woods* (formerly, not seen lately, W. Bree); *Rugby* = *Brandon*, *Princethorpe*, etc. (Rugby lists); *Atherstone* (C. Baker); *Ettington* (L. C. Keighley-Peach); *Wolford* (W. C. E. Wheeler); *Coombe Woods* (G. B. Longstaff, *E.M.M.* 1866, p. 138)

SPHINGIDÆ

- Acherontia Atropos*, L. In the years when this species is common in England, we get our share and hear of its occurrence in the larval stage in potato fields. I have records from *Chalcot Wood* (W. Harrison); *Solibull* (A. H. Martineau); *Knowle* (H. W. Ellis, etc.); *Water Orton* (R. C. Bradley); *Rugby* (Rugby lists, 1867, 1874, 1889); *Atherstone* (C. Baker); *Wol-*

ford Woods (Austen); *Whitchurch* (very common 1900, J. H. Bloom); *Warwick* (P. P. Baly)

Smerinthus populi, L. Common everywhere

— *ocellata*, L. Fairly common, less so than *populi*. *Solibull* (R. C. Bradley); *Knowle* (H. W. Ellis, common, etc.); *Small Heath* (Blatch Cat.); *Yardley* (H. Taylor); *Rugby* (Rugby lists); *Warwick* (P. P. Baly), *Atherstone* (C. Baker); *Wolford Woods* (Austen); *Ettington* (L. C. Keighley-Peach)

Dilina tiliæ, L. Less common than the above, but generally distributed. *Knowle* (Blatch Coll. and W. Kiss); *Stoneleigh Park* (Blatch Coll.); *Warwick* (P. P. Baly); *Rugby* (Rugby lists); *Atherstone* (C. Baker); *Idlicote* (L. C. Keighley-Peach); *Wolford* (W. C. E. Wheeler)

Daphnis (*Chærocampa*) *nerii*, L. *Birmingham*; one in 1870 in the town (F. Enock, *E.M.M.* 1870, p. 41)

Sphinx ligustri, L. Not common. *Knowle* (W. G. Blatch and W. Kiss); *Salford Priors* (larva on ash, J. T. Fountain); *Solibull* (larvæ on holly, A. H. Martineau), *Rugby* (Rugby lists); *Sutton Coldfield* (Blatch Hand.; not for many years, C. J. W.); *Brandon Woods* (Rugby lists); *Warwick* (many, P. P. Baly); *Atherstone* (C. Baker); *Whitchurch* (J. H. Bloom); *Wolford* (W. C. E. Wheeler)

Protoparce (*Sphinx*) *convolvuli*, L. Only odd stragglers in convolvuli years; several have been recorded in the city itself and its suburbs (*Entom.* 1898, p. 292, A. D. Imms; 1887, p. 273, W. T. Raine; *E.M.M.* 1868, p. 107, G. H. Kenrick). I also have records from *Solibull* (one, A. H. Martineau, in 1898); *Hampton-in-Arden* (G. W. Wynn, *Ent. Record*, xiii. 335); *Warwick* (P. P. Baly, *Entom.* Dec. 1872); *Rugby* (Rugby list, W. S. Edmonds, 1888); *Knowle* (W. Kiss); *Atherstone* (C. Baker); *Wolford* (one in 1886; in some numbers about 1846, W. C. E. Wheeler); *Birmingham district* (common in 1868, F. Enock, List, 1869)

Deilephila gallii, Rott. W. G. Blatch (*Brit. Assoc. Hand.*) and F. Enock (List, 1870) speak of its occasional occurrence in *Birmingham*, but without exact reference. I have a speci-

INSECTS

- men taken in *Handsworth*, just over the border. *Rugby* (in a cottage window at *Overslade*, N. W. Hudson, *Rugby lists*, 1888)
- Deilephila lineata*, F. One in *Birmingham* in 1870 (F. Enock, *E.M.M.* 1870, p. 40)
- Chærocampa celerio*, L. One in *Birmingham* = *Horsefair* in 1868 (F. Enock, *E.M.M.* 1868, p. 172); and one at *Edgbaston* (G. T. Bethune-Baker, *Entom.* 1880, p. 310)
- *elpenor*, L. Not common. *Marston Green* (one, H. Stone); *Shirley* (J. T. Fountain); *Sutton Park* (one, E. C. Tye); *Knowle* (H. W. Ellis, *Blatch Coll. etc.*), *Solihull* and *Hockley Heath* (*Blatch Hand.*); *Rugby* (many records in *Rugby lists*); *Atherstone* (C. Baker); *Whitchurch* (L. C. Keighley-Peach); *Wolford* (W. C. E. Wheeler)
- Metopsilus* (*Chærocampa*) *porcellus*, L. Not common. *Sutton Park* is the best known locality for this species, but it is rare there. It is also recorded from *Atherstone* (C. Baker, *Entom.* 1899, p. 213); *Wellesbourne* (L. C. Keighley-Peach); *Wolford* (by his father, W. C. E. Wheeler); *Rugby* (*Rugby lists*)
- Macroglossa stellatarum*, L. Not uncommon sometimes, locally. *Sutton* (P. W. Abbott); *Aston* (C. J. Wakefield); *Solihull* (A. H. Martineau); *Hampton-in-Arden* (one, 1900, G. W. Wynn); *Knowle* (H. W. Ellis, W. Kiss, etc.); *Small Heath Park* (H. Taylor); *Rugby* = *Overslade*, etc. (several records, *Rugby lists*); *Warwick* (most years, P. P. Baly); *Atherstone* (C. Baker); *Wolford* (Austen; common some years, W. C. E. Wheeler); *Whitchurch* (very common 1900, J. H. Bloom)
- Hemaris* (*Macroglossa*) *fuciformis*, L. Owing to the confusion in the synonymy of this and the next species, most of the records must be regarded as uncertain; both species however occur in the county, I believe, but are always rare. This one has occurred at *Rugby*, as Mr. N. V. Sidgwick writes to me: 'The only one occurring here so far as I know is the broad bordered one of which I have one and have seen several others.' Moreover, there are many records of it in the *Rugby lists*, chiefly from *Brandon Woods*. Both species were recorded by the old collectors as being common near *Knowle* at *Chalcot Wood*, etc. (*Blatch Hand.*; F. Enock, *Sat. Guide*); they however must be very scarce now, as only single specimens have been seen anywhere near for many years. Mr. J. T. Fountain took one of this species there at *Umberslade* on June 14, 1896, and one on June 17, 1900. *Coombe Wood* (common, G. B. Longstaff, *E.M.M.* 1866, p. 138; G. H. Kenrick); *Wolford* (taken years ago by his father, W. C. E. Wheeler)
- Hemaris scabiosæ*, Z. (*bombylifomis*, Esp.) The narrow bordered species I can give fewer records of, and yet I suspect it is equally common. Its occurrence near *Knowle* in the old days is already referred to above, and Mr. J. T. Fountain took one there on June 21, 1891, at *Umberslade*. In the *Rugby lists* both names occur; doubt is however thrown on the records of this species by Mr. N. V. Sidgwick's note quoted above

NOTODONTIDÆ

- Cerura furcula*, Cl. Rare. The larvæ occasionally obtained from swallow. *Knowle* (R. C. Bradley, W. Kiss, *Blatch Hand.*); *Sutton* (R. C. Bradley); *Rugby* (A. Sidgwick, *Rugby list*, 1867, etc.)
- *bifida*, Hb. Not uncommon in the larval stage on poplars and aspens. I have taken it in the suburbs of *Birmingham*, at *Yardley*, and in *Handsworth* (*Staffs.*); I also have records from *Hampton-in-Arden*, *Marston Green*, *Yardley* (G. W. Wynn); *Knowle* (*Blatch Coll.*, etc., W. Kiss); *Rugby* = *Brandon*, etc. (*Rugby lists*)
- Dicranura vinula*, L. Common everywhere; its name occurs in every list I have received
- Stauropus fagi*, L. Very rare in the midlands. Its only claim to inclusion in the Warwickshire list rests on the recorded capture of one larva at *Rugby* in the *Rugby list*, 1888. It is a schoolboy record and open to doubt, but owing to the striking character of the larva, and the fact that it occurs in neighbouring counties, I have treated it as probably correct, and included it

A HISTORY OF WARWICKSHIRE

Drymonia (Notodonta) *trimacula*, Esp. (dodonæa, Frr.) Rare. *Marston Green* (one, E. C. Tye); *Atherstone* (C. Baker); *Knowle* (Blatch Hand.; F. Enock, *Sat. Guide*)

— *chaonia*, Hb. Rarer even than the above. *Atherstone* (one, C. Baker); *Wolford* (one, W. C. E. Wheeler)

Pheosia (Notodonta) *tremula*, Cl. (dictæa, Esp.) Not common, but probably generally distributed. *Knowle* (R. C. Bradley, etc.); *Rugby* (A. Sidgwick, *Rugby lists*, 1867, etc.); *Wolford Woods* (Austen). I have taken it in the *Birmingham suburbs* = at *Handsworth* = but over the border. It doubtless occurs however all round *Birmingham*, on the many poplars in gardens, etc.

— *dictæoides*, Esp. Probably somewhat commoner than the above. *Atherstone* (C. Baker); *Rugby* = *Brandon Woods* (*Rugby lists*); *Sutton Park* (C. J. Wainwright, etc.); *Knowle* (G. W. Wynn, W. G. Blatch)

Notodonta ziczac, L. Not common; at *Knowle* it occurs regularly, and it is also recorded from *Sutton Park* (P. W. Abbott); *Yardley* (H. Taylor); *Rugby* = *Overcliffe*, etc. (*Rugby lists*); *Wolford Woods* (Austen)

— *dromedarius*, L. Not uncommon. I have taken the larvæ at *Sutton* and *Knowle*, at both of which places it probably occurs regularly; it is also recorded from *Marston Green* (G. W. Wynn); *Cuswell* (F. Enock, *Sat. Guide*); *Birmingham* (one larva, R. C. R. Jordan, *E.M.M.* ii. 261)

— *trepida*, Esp. *Ateneone* a pair in 1901, C. Baker; *Kingswood* (one in 1902, W. H. Flint)

Lophopteryx camelina, L. A common species everywhere

Pterostoma palpina, L. Not uncommon on aspen. *Knowle* (R. C. Bradley, W. Kiss, W. G. Blatch, etc.); *Small Heath* (H. Taylor); *Rugby* (*Rugby list*, 1874); *Overcliffe* (*Rugby list*, J. M. Furness, 1893); *Wolford* (W. C. E. Wheeler); has also been taken in *Birmingham suburbs*, but not in our county

Phalera bucephala, L. Very common everywhere

Pygæa curtula, L. Very rare. *Knowle* (W. Kiss)

— *pigra*, Hufn. (*reclusa*, F.) The only claim of this species to inclusion in the county lists rests on a record in

the *Rugby lists*, 1888. It has however probably been overlooked elsewhere

LYMANTRIIDÆ

Orgyia gonostigma, F. Rare; its occurrence needs confirmation. *Coventry* (Blatch Hand.); *Rugby* (*Rugby list*, 1888); *Coombe Wood* (G. H. Kenrick)

— *antiqua*, L. Common everywhere

[*Dasychira fascelina*, L. Needs confirmation as a Warwickshire insect. There is a specimen in the Blatch Coll. labelled as having been obtained in *Sutton Park*; and some very doubtful records in the *Rugby lists*]

— *pubibunda*, L. Not uncommon. *Knowle* (G. W. Wynn, H. W. Ellis, W. Kiss, etc.); *Solihull* (Blatch Cat.); *Rugby* = *Brandon*, *Princethorpe*, etc. (*Rugby lists*); *Atherstone* (C. Baker); *Wolford* (W. C. E. Wheeler)

Euproctis (*Porthesia*) *chrysorrhæa*, L. This species has been recorded several times, and possibly records referring to old captures may be correct. F. Enock (in list, 1870) gives it as occurring in the *Birmingham district*, and W. C. E. Wheeler's record of it for *Wolford* may have been correct in his father's days. I doubt its occurrence now anywhere in the county, and although the name occurs many times in the *Rugby lists*, it is probably in error

Porthesia similis, Fuessl. (*auriflua*, F.) Very common, often abounds

Stilpnotia (*Leucoma*) *salicis*, L. Not common. *Coventry* (larvæ near, in 1897, E. C. Tye); *Knowle* (Blatch Hand.); *Rugby* (*Rugby lists*); *Edgbaston* (one at rest, 1901, G. H. Kenrick)

Lymantria (*Psilura*) *monacha*, L. *Sutton Park* (Blatch Hand.), but certainly not seen for many years; *Rugby* = *Coombe Wood*, *Brandon Woods*, etc. (many records, *Rugby lists*); *Wolford* (sometimes fairly plentiful = several at 'sugar,' in 1888, W. C. E. Wheeler)

LASIOCAMPIDÆ

Malacosoma neustria, L. By no means a pest in Warwickshire as it seems to be in many places further south; it is rather an uncommon insect with us as a rule. *Whitchurch*, *Idlicote* (J. H. Bloom); *Wolford* (W. C. E. Wheeler; Austen); *Knowle* (H. W. Ellis, common at 'light,' etc.); *Rugby* (*Rugby list*, 1874)

INSECTS

Trichiura cratægi, L. Rare. *Atherstone* (C. Baker); *Rugby* (Rugby lists = A. Sidgwick, etc.); also recorded from near *Whitchurch* in the strip of Worcestershire separating *Whitchurch* from the rest of Warwickshire (L. C. Keighley-Peach)

Pœcilocampa populi, L. Not common. *Yardley* (E. C. Tye); *Sutton* (A. Johnson); *Knowle* (R. C. Bradley, W. Kiss, etc.); *Rugby* (Rugby lists); *Atherstone* (C. Baker); *Whitchurch* (on Worcestershire side of parish, L. C. Keighley-Peach)

Eriogaster lanestris, L. Not common. *Alcester* (R. C. Bradley); *Knowle* (H. W. Ellis, W. Kiss, etc.); *Rugby* = *Church Lawford* and *Brandon Woods* (A. Sidgwick, etc., Rugby lists); *Atherstone* (C. Baker); *Wolford* (Austen; larvæ sometimes common, W. C. E. Wheeler); *Idlicote* (L. C. Keighley-Peach)

Lasiocampa quercus, L. Common especially in *Sutton Park*, where the larvæ are sometimes abundant. *Rugby* = *Princethorpe*, etc. (Rugby lists); *Warwick* (common, Baly); *Knowle* (W. Kiss); *Atherstone* (C. Baker); *Wolford* (Austen, W. C. E. Wheeler)

Macrothylacia (Bombyx) rubi, L. Common in *Sutton Park*; also recorded from *Rugby* (Rugby list, 1894 only); *Wolford* (W. C. E. Wheeler)

Cosmotriche potatoria, L. Common everywhere

Gastropacha quercifolia, L. Very rare. *Bidford* (one, G. W. Wynn); *Hockley Heath* (larva once, Blatch Cat.); *Rugby* (A. Sidgwick, Rugby list, 1867, etc.); near *Warwick* (W. Kiss); *Wolford* (larvæ several times, not common, W. C. E. Wheeler); *Whitchurch* (on Worcestershire side, L. C. Keighley-Peach)

SATURNIIDÆ

Saturnia pavonia, L. Common in *Sutton Park*, where the males have been obtained in considerable numbers by sembling; has not been recorded from anywhere else in the county, though there are several other localities where it might be expected

DREPANIDÆ

Drepana falcatoria, L. Not rare. I have taken the larvæ freely at *Knowle* and also have records from *Marston Green* (G. W. Wynn); *Coventry* (G. H.

Kenrick); *Knowle* (W. Kiss, Blatch Coll.); *Coleshill* (Blatch Cat.); *Rugby* = *Brandon Woods*, etc. (Rugby lists); *Atherstone* (C. Baker); *Frankton* (G. B. Longstaff, *E.M.M.* iii. 138)

Drepana lacertinaria, L. With the above, but not quite so common. *Marston Green* (E. C. Tye, G. W. Wynn); *Knowle* (R. C. Bradley, W. Kiss, etc.); *Sutton Park* (P. W. Abbott, G. W. Wynn); *Umberslade* (Blatch Coll.); *Rugby* = *Brandon Woods*, etc. (Rugby lists); *Atherstone* (C. Baker)

— *binaria*, Hufn. (hamula, Esp.) Rare; only old records = *Knowle* (Blatch Hand., and F. Enock, *Sat. Guide*), and the schoolboy records of the Rugby lists (1877, 1888)

Cilix glaucata, Sc. (spinula, Schiff.) Generally distributed

NOCTUIDÆ

ACRONYCTINÆ

Acronycta leporina, L. Not uncommon; larvæ frequent on poplars at *Sutton* and *Knowle*; also recorded from *Yardley* (E. C. Tye); *Rugby* = *Brandon Woods*, etc. (Rugby lists), and *Atherstone* (C. Baker). The usual form with us appears to be *brady-porina*, Tr.

— *aceris*, L. Very rare. W. G. Blatch records one specimen found on palings at *Small Heath* in 1870, which specimen is still in his collection; no other record of the species in this county exists however, excepting one or two in the Rugby lists (1874, 1898)

— *megacephala*, F. Common in the suburbs on the Staffordshire side of *Birmingham*, and probably all round. Also recorded from *Knowle* (G. W. Wynn, H. W. Ellis, etc., etc.); *Rugby* (A. Sidgwick, Rugby list, 1867, etc.); *Warwick* (P. P. Baly); *Whitchurch* (Worcestershire side, L. C. Keighley-Peach)

— *alni*, L. Occurs throughout the district, but never more than one specimen seems to be taken at one time or place, and every one is recorded; so that it must be considered very rare. *Wylde Green* (one on hawthorn, C. J. Wainwright); near *Rugby* (one, W. D. Spencer); *Knowle* (one, G. W. Wynn; one on oak, W. Kiss); *Sutton* (one on mountain ash, R. C. Bradley); *Moseley* (one on maple, H. W. Ellis); *Yardley*

A HISTORY OF WARWICKSHIRE

ACRONYCTINÆ (continued)

(E. C. Tye, H. Taylor); *Small Heath* (one, W. G. Blatch); *Edgbaston* (G. H. Kenrick, one at 'light'; Blatch Hand., and Enock, *Sat. Guide*); near *Solibull* (A. D. Imms, *Entom.* 1898, p. 293); *Rugby* (A. Sidgwick, *Rugby list*, 1867; one, N. W. Hudson, *Rugby list*, 1889); *Brandon Woods* and *Overslade* (one each, *Rugby lists*, 1893); *Atherstone* (C. Baker); *Sutton* (one, F. Enock, *E.M.M.* i. 143)

Acronycta tridens, Schiff. Very doubtfully distinguished from the next species. It is probably not uncommon, but records cannot be trusted. I have not met with the larvæ myself. W. G. Blatch (*Brit. Assoc. Hand.*) speaks however of taking the larvæ on elms at *Knowle*, and probably knew them; and N. V. Sidgwick writes to me that he has taken and bred it at *Rugby*, and is certain of the identification

- psi, L. Very common everywhere
- menyanthidis, View. Mr. G. H. Kenrick took a single specimen in 1899 at *Richmond Hill, Edgbaston*; he knew the species, having taken it in the north, so it was doubtless correctly identified, but its occurrence must have been quite accidental
- rumicis, L. Common everywhere
- Craniophora (Acronycta) ligustri*, F. Rare. *Atherstone* (C. Baker); *Rugby* = *Coombe Wood*, etc. (*Rugby lists*)

TRIFINÆ

- Agrotis strigula*, Thnb. (porphyrea, Hb.) Not common; occurs most freely in *Sutton Park*; also recorded from near *Coleshill* (G. W. Wynn); *Hay Woods* (Blatch Coll.); *Rugby* (*Rugby lists*, 1888 only; rather doubtful)
- janthina, Esp. Common throughout the district
- fimbria, L. Not uncommon. Occurs in nearly every list, but is never abundant
- interjecta, Hb. Rare. *Knowle* (one, R. C. Bradley, Aug. 16, 1885); *Hampton-in-Arden* (two at 'sugar,' 1900, G. W. Wynn); *Yardley, Knowle* (Blatch Hand.); *Rugby* = *Overslade*, etc. (*Rugby lists*, several times); *Atherstone* (C. Baker); *Wolford* (Austen; used to be fairly plentiful, W. C. E. Wheeler); *Whitchurch* (J. H. Bloom)
- augur, F. Common throughout the district

TRIFINÆ (continued)

- Agrotis obscura*, Brahm. (*ravida*, Hb.) Very rare. *Rugby* (N. V. Sidgwick); *Rugby* = *Overslade*, etc. (*Rugby lists*); *Whitchurch* (Worcestershire side, L. C. Keighley-Peach)
- pronuba, L. Abundant everywhere as usual
- comes, Hb. (*orbona*, F.) Common everywhere
- castanea, Esp. Very rare. *Rugby* = *Overslade, Frankton*, etc. (*Rugby lists*); *Atherstone* (C. Baker). F. Enock gives it as occurring in the *Birmingham* district in his 1870 list
- agathina, Dup. Was once only taken at *Sutton* by H. Tunaley
- triangulum, Hufn. *Marston Green, Yardley, Hampton-in-Arden* (common, G. W. Wynn); *Sutton* (P. W. Abbott, etc.); *Knowle* (R. C. Bradley); *Small Heath* (Blatch Cat.); *Rugby* = *Overslade*, etc. (*Rugby lists*); *Atherstone* (C. Baker)
- baja, F. Common everywhere
- c-nigrum, L. " "
- xanthographa, F. Very common everywhere
- umbrosa, Hb. *Yardley, Hampton-in-Arden* (G. W. Wynn); *Knowle* (R. C. Bradley, W. G. Blatch); *Rugby* = *Overslade*, etc. (*Rugby lists*); *Atherstone* (C. Baker); *Wolford* ('seems fond of sunflowers,' W. C. E. Wheeler)
- rubi, View. *Sutton* (P. W. Abbott); *Knowle* (R. C. Bradley, etc.); *Hampton-in-Arden* (G. W. Wynn); *Birmingham* (Blatch Cat.); *Rugby* = *Overslade*, etc. (*Rugby lists*); *Atherstone* (C. Baker); *Whitchurch* (J. H. Bloom)
- dahlii, Hb. Not common. *Sutton* (P. W. Abbott, G. W. Wynn); *Knowle* (Blatch Coll.); *Rugby* = *Overslade*, etc. (*Rugby lists*)
- brunnea, F. *Marston Green, Hampton-in-Arden* (common, G. W. Wynn); *Sutton* (P. W. Abbott, R. C. Bradley, etc.); *Knowle* (R. C. Bradley, etc.); *Rugby* = *Brandon Woods*, etc. (*Rugby lists*)
- primula, Esp. (*testiva*, Hb.) Common everywhere
- glareosa, Esp. *Sutton* (P. W. Abbott, G. W. Wynn, R. C. Bradley, etc.); *Hampton-in-Arden* (G. W. Wynn); *Knowle* (W. G. Blatch)
- plecta, L. *Sutton* (P. W. Abbott, G. W. Wynn); *Knowle* (R. C.

INSECTS

TRIFINÆ (continued)

- Bradley, H. W. Ellis, etc.); *Hampton-in-Arden*, *Marston Green* (G. W. Wynn); *Rugby* = *Overslade*, etc. (Rugby lists); *Atherstone* (C. Baker).
- Agrotis putris*, L. Not common. *Knowle* (R. C. Bradley); *Rugby* = *Overslade*, *Waveley Wood* near *Stoneleigh*, etc. (Rugby lists); *Atherstone* (C. Baker); *Wolford* (W. C. E. Wheeler); *Whitchurch* (Worcestershire side, L. C. Keighley-Peach)
- *exclamationis*, L. Very common everywhere
- *nigricans*, L. *Knowle* (W. G. Blatch, R. C. Bradley); *Hampton-in-Arden* (a few in 1900, G. W. Wynn); *Rugby* (N. V. Sidgwick, etc., Rugby lists); *Atherstone* (C. Baker); *Birmingham* (very rare, R. C. R. Jordan, *E.M.M.*, October, 1888)
- *tritici*, L. Very rare. *Hampton-in-Arden* (two in 1900, G. W. Wynn); *Rugby* (one doubtful record); is given by F. Enock (List, 1869) as common, but that must have been an error
- *tritici*, L., var. *aquilina*, Hb. Very rare. N. V. Sidgwick records one from *Rugby*
- *obelisca*, Hb. This species, usually, I believe, associated with the sea coast, occurs in *Sutton Park*, where a few specimens have been taken by P. W. Abbott and G. W. Wynn
- *corticea*, Hb. Rare with us. *Marston Green*; *Lapworth*; *Hampton-in-Arden* (G. W. Wynn); *Rugby* = *Overslade*, etc. (Rugby lists)
- *ypsilon*, Rott. (*suffusa*, Hb.) Not common. *Sutton* (P. W. Abbott); *Knowle* (W. G. Blatch, W. Kiss); *Hampton-in-Arden* (one in 1900, G. W. Wynn); *Rugby* = *Overslade*, etc. (Rugby lists); *Atherstone* (C. Baker); *Birmingham* (very rare, R. C. R. Jordan, *E.M.M.*, October, 1888)
- *segetum*, Schiff. Common everywhere
- *saucia*, Hb. Not common. *Sutton* (P. W. Abbott); *Knowle* (W. G. Blatch, W. Kiss); *Small Heath* (H. Taylor); *Rugby* = *Overslade*, etc. (Rugby lists)
- *prasina*, F. (*herbida*, Hb.) Not common. *Knowle* (W. G. Blatch); *Hay Woods* (Blatch Coll.); *Rugby* = *Frankton Wood*, etc. (Rugby lists); *Atherstone* (C. Baker), and I believe it has occurred in *Sutton Park*

TRIFINÆ (continued)

- Pachnobia rubricosa*, F. Common throughout the county
- Charæas graminis*, L. Not uncommon. *Sutton* (C. J. Wainwright, etc.); *Knowle* (R. C. Bradley, W. Kiss, etc.); *Rugby* = *Overslade*, etc. (Rugby lists); *Atherstone* (C. Baker); *Wolford* (common in a few spots, W. C. E. Wheeler)
- Epineuronia popularis*, F. Not common, but occurs in every list
- *cespitis*, F. Not common. *Knowle* (W. G. Blatch, R. C. Bradley); *Yardley* (H. Taylor); *Wolford* (W. C. E. Wheeler); *Atherstone* (C. Baker); *Pershore Road*, *Birmingham* (J. T. Fountain)
- Mamestra advena*, F. Very rare. *Rugby* = *Overslade*, etc. (J. M. Furness, etc., Rugby lists); *Wolford* (W. C. E. Wheeler). I know of no other records
- *tincta*, Brahm. Very rare; the only record I have is *Knowle* (W. G. Blatch)
- *nebulosa*, Hufn. Common throughout the county
- *brassicæ*, L. Very common everywhere
- *persicariæ*, L. Common, particularly so in gardens
- *oleraceæ*, L. Common everywhere
- *genistæ*, Bkh. Not common. *Knowle* (W. G. Blatch, R. C. Bradley, etc.); *Kingswood* (G. H. Kenrick); *Rugby* (Rugby list, 1886 only); *Atherstone* (C. Baker); *Sutton* (F. Enock, *Sat. Guide*, but no recent record, C. J. W.)
- *dissimilis*, Knoch. Rare. *Small Heath* (H. Taylor); *Rugby* = *Overslade*, *Brandon Woods*, etc. (Rugby lists); *Atherstone* (C. Baker)
- *thalassina*, Rott. Common everywhere
- *contigua*, Vill. Not common; generally taken singly in the larval stage. I have a number of records from *Sutton*, also from *Hampton-in-Arden* (G. W. Wynn); *Knowle* (W. G. Blatch Coll.); *Rugby* (Rugby list, 1888 only)
- *pisi*, L. Common everywhere
- *trifolii*, Rott. (*chenopodii*, F.) Rare. *Rugby* (N. V. Sidgwick); *Overslade* (J. M. Furness, Rugby list, 1892); also is mentioned in Blatch Cat. as occurring at *Knowle*; there is however no specimen in the Blatch collection
- *glauca*, Hb. Rare. The only certain

A HISTORY OF WARWICKSHIRE

TRIFINÆ (continued)

- locality for it is *Sutton Park*, where it occurs regularly but locally and not abundantly. It is also recorded from *Rugby* once (Rugby list, 1874)
- Mamestra dentina*, Esp. Common everywhere
- *reticulata*, Vill. (saponariæ, Bkh.) Rare. I have records from *Whitchurch* (J. H. Bloom); *Wolford* (W. C. E. Wheeler); *Overslade* (Rugby list = J. M. Furness, 1892)
 - *serena*, F. Not common; occurs occasionally in *Sutton Park*, and I also have records from *Wolford* (W. C. E. Wheeler); *Rugby* = *Brandon Woods*, etc. (Rugby lists); *Atherstone* (C. Baker); *Whitchurch* (on Worcester side of parish, L. C. Keighley-Peach)
 - Dianthœcia capsicola* (S.V.), Hb. Common. *Marston Green* (G.W.Wynn); *Small Heath* (J. T. Fountain); *Knowle* (Blatch Coll.); *Rugby* (Rugby lists and N. V. Sidgwick); *Edgbaston* (Dr. Jordan)
 - *cucubali* (S.V.), Fuessl. Not uncommon. *Knowle* (R. C. Bradley); *Birmingham* (Blatch Coll.); *Rugby* = *Overslade*, etc. (Rugby lists); *Atherstone* (C. Baker)
 - Bombycia viminalis*, F. Not uncommon. *Knowle* (R. C. Bradley, etc.); *Rugby* (N. V. Sidgwick, and Rugby lists); *Atherstone* (C. Baker); *Wolford* (W. C. E. Wheeler)
 - Miana literosa*, Haw. *Knowle* (R. C. Bradley); *Hampton-in-Arden* (G.W. Wynn); *Small Heath* (W.G. Blatch); *Atherstone* (C. Baker)
 - *strigilis*, Cl. Very common throughout the district. In the immediate neighbourhood of *Birmingham* the usual form is var. *æthiops*, Haw. Amongst many specimens I took or saw on 'sugar' in *Handsworth* (a Staffordshire suburb) I only took one specimen with any distinct white markings, and I believe that is the more general experience around *Birmingham*. I have records of the species from all parts of the county, but do not know what form prevails right away from *Birmingham*, though at *Knowle* the black one is still the commoner one.
 - *fasciuncula*, Haw. Common; occurs in every list, and I believe is nearly always found with the preceding but less commonly
 - *bicoloria*, Vill. *Yardley*, *Sutton*, *Hamp-*

TRIFINÆ (continued)

- ton-in-Arden* (very common in 1900 in the last locality, G. W. Wynn); *Rugby* (Rugby lists)
- Bryophila perla*, F. Common throughout the county in suitable spots, but of course local
- Diloba cœruleocephala*, L. Throughout the county; is recorded in every list
- Apamea testacea*, Hb. Common everywhere
- Celæna matura*, Hufn. (cytherea, F.). Well distributed, not common. *Knowle* (W. G. Blatch, R. C. Bradley); *Hampton-in-Arden* (a few, 1900, G. W. Wynn); *Rugby* = *Overslade*, etc. (Rugby lists); *Atherstone* (C. Baker); *Wolford* (W. C. E. Wheeler); *Whitchurch* (on Worcestershire side, L. C. Keighley-Peach)
- Hadena adusta*, Esp. Not common and very local. *Sutton Park* (G. W. Wynn); *Rugby* = *Overslade*, etc. (Rugby lists); *Knowle* (W. Kiss); *Atherstone* (C. Baker)
- *ochroleuca*, Esp. One specimen is in the Blatch collection which has been recorded as having occurred near *Small Heath*, and according to the Blatch MS. Catalogue of the collection was taken by Mr. James Madison; no other specimen has been taken anywhere near *Birmingham* to my knowledge
 - *furva* (S.V.), Hb. Mr. C. Baker informs me that he took two specimens at *Atherstone*, which were assigned to this species by Mr. R. Newstead of Chester. It certainly seems very rare throughout the midlands and needs confirmation
 - *sordida*, Bkh. (anceps, Hb.) Not common. *Coventry*; *Sutton* (G. W. Wynn); *Hampton-in-Arden* (one in 1900, G. W. Wynn); *Knowle* (R. C. Bradley, and Blatch Coll.); *Small Heath* (H. Taylor); *Rugby* = *Overslade*, etc. (Rugby lists)
 - *monoglyphæ*, Hufn. Extremely common everywhere. Var. *infusca*, Buch. White. Very rare, only one recorded, *Solihull* (A. H. Martineau)
 - *lithoxylea*, F. Common; occurs in every list. Mr. G. W. Wynn found it very common at 'sugar' at *Hampton-in-Arden* in 1900
 - *sublustris*, Esp. Much less common. *Hampton-in-Arden* (a few, 1900, G. W. Wynn); *Knowle* (Blatch Coll.); *Rugby* = *Overslade*, etc. (Rugby lists)

INSECTS

TRIFINÆ (continued)

- Hadena rurea*, F. Common everywhere in various forms; type and var. *alopecurus*, Esp.
- *hepatica*, Hb. Not common. *Hampton-in-Arden* (one in 1900, G. W. Wynn); *Knowle* (Blatch Coll.); *Rugby* (Rugby lists); *Atherstone* (C. Baker)
- *scolopacina*, Esp. Not common. *Knowle* (G. W. Wynn, W. G. Blatch, etc.); *Hay Woods* (G. W. Wynn, etc.); *Wolford* (W. C. E. Wheeler); *Atherstone* (C. Baker)
- *basilinea*, F. Common everywhere
- *gemina*, Hb. Common. *Sutton* (with var. *remissa*, P. W. Abbott, etc.); *Knowle* (R. C. Bradley, etc.); *Hampton-in-Arden* (G. W. Wynn); *Small Heath* (H. Taylor); *Rugby* = *Overslade*, etc. (Rugby lists); *Wolford* (W. C. E. Wheeler)
- *unanimis*, Tr. Rare. Has occurred in the *Birmingham* district, but whether on the Warwickshire side or not I do not know. Mr. G. H. Kenrick took it at *Selly Oak* in Worcestershire, and Mr. F. Enock records it in the ten-mile radius (List, 1870). It is also mentioned in the Rugby lists from *Brownsover* and *Overslade*, but needs confirmation on the whole
- *secalis*, L. (*didyma*, Esp.; *oculea*, Gn.) Occurs in various forms commonly everywhere
- Aporophyla lutulenta*, Bkh. Very rare. Has been taken at *Knowle*, where Mr. H. W. Ellis got one in 1898 at 'sugar,' and where it is mentioned as occurring in the Blatch Catalogue
- Polia flavicincta* (S.V.), F. Very rare, and I should like confirmation. Mr. A. Sidgwick recorded it in 1867 in Rugby lists, and his son writes to me that he believes it to be correct, and Mr. W. C. E. Wheeler records it at *Wolford*.
- *chi*, L. Occurs throughout the county
- Brachionycha sphinx*, Hufn. (*cassinea*, Hb.) *Wolford* (occasionally, W. C. E. Wheeler)
- Miselia oxyacanthæ*, L. Common everywhere with var. *capucina*, Mill.
- Dichonia aprilina*, L. Occurs throughout the county
- Dryobota protea* (S.V.), Bkh. Common throughout the county
- Diptyrygia scabriuscula*, L. Is recorded in Rugby list, 1886, as occurring at *Kings Newnham* near *Rugby*, and is sufficiently distinct for no error to be

TRIFINÆ (continued)

- likely in its identification; it is however a rare midland insect
- Euplexia lucipara*, L. Common everywhere
- Brotolomia meticulosa*, L. Common everywhere
- Mania maura*, L. Occurs throughout the county not uncommonly
- Nænia typica*, L. Common everywhere
- Hydroecia nictitans*, Bkh. Common everywhere
- *micacea*, Esp. Common. *Sutton* (P. W. Abbott); *Knowle* (one as late as Nov. 2, W. G. Blatch, etc.); *Hampton-in-Arden* (G. W. Wynn); *Small Heath* (H. Taylor); *Rugby* = *Overslade*, etc. (Rugby lists); *Atherstone* (C. Baker); *Wolford* (W. C. E. Wheeler)
- Gortyna ochracea*, Hb. (*flavago*, Esp.) Not uncommon. *Sutton* (C. J. W., P. W. Abbott, etc.); *Knowle* (R. C. Bradley, etc.); *Hay Mills*, etc. (J. T. Fountain); *Small Heath* (H. Taylor); *Rugby* = *Overslade*, etc. (Rugby lists)
- Nonagria typhæ*, Thnbg. Local, but probably occurs wherever its food plant grows freely; recorded from *Knowle* (R. C. Bradley, etc.); *Sutton* (P. W. Abbott); near *Whitacre* (G. W. Wynn); *Rugby* = *Kings Newnham*, etc. (Rugby lists)
- Tapinostola fulva*, Hb. *Sutton Park* (P. W. Abbott, G. W. Wynn, etc.); *Knowle* (R. C. Bradley, G. W. Wynn); *Hampton-in-Arden* (G. W. Wynn); *Rugby* = *Cathiron*, etc. (Rugby lists); *Whitchurch* (J. H. Bloom)
- Calamia lutosæ*, Hb. Mr. R. C. Bradley possesses a specimen which was taken at 'light' at the signal box at *Knowle* railway station. Mr. F. Enock in his 1869 list also gives it as occurring in the ten-mile radius from *Birmingham*, on what authority I know not
- Leucania impura*, Hb. Common everywhere
- *pallens*, L. Common everywhere
- *comma*, L. " "
- *conigera*, F. *Hampton-in-Arden* ('sugar,' 1900, G. W. Wynn); *Knowle* (Blatch Coll.); *Solihull* (Blatch Cat.); *Rugby* = *Overslade*, etc. (Rugby lists); *Wolford* (Austen, W. C. E. Wheeler); *Whitchurch* (J. H. Bloom)
- *lithargyria*, Esp. Throughout the county
- Grammesia trigrammica*, Hufn. Throughout the county

A HISTORY OF WARWICKSHIRE

TRIFINÆ (continued)

- Caradrina quadripunctata*, F. (cubicularis [S.V.], Bkh.) Common generally
— *morpheus*, Hufn. Common everywhere
— *alsines*, Brahm. *Knowle* (W. G. Blatch, R. C. Bradley); *Hampton-in-Arden* (G. W. Wynn, common); *Rugby* (Rugby lists); *Whitchurch* (J. H. Bloom); *Atherstone* (C. Baker); *Wolford* (W. C. E. Wheeler)
— *taraxaci*, Hb. (blanda, Tr.) *Knowle* (W. G. Blatch, R. C. Bradley); *Hampton-in-Arden* (G. W. Wynn); *Rugby* = *Overslade*, etc. (Rugby lists)
*Petilamp*a *arcuosa*, Haw. Common everywhere
Rusina umbratica, Goeze (*tenebrosa*, Hb.) Common everywhere
Amphipyra tragopoginis, L. Common everywhere
— *pyramidea*, L. Common locally. *Coven-*
try (G. W. Wynn); *Knowle* (Blatch Coll.); *Rugby* = *Overslade* (Rugby lists); *Warwick* (seen only, P. P. Baly); *Atherstone* (C. Baker); *Idlicote* (J. H. Bloom); *Wolford* (W. C. E. Wheeler)
Tœniocampa gothica, L. Very common, especially in the pupal stage
— *miniosa*, F. *Marston Green* (one in 1895, H. Taylor); *Rugby* = *Princethorpe* (Rugby list, 1897 only). Not uncommon in *Worcestershire*, so will probably prove commoner in *Warwickshire* when looked for
— *pulverulenta*, Esp. Very common
— *populeti*, Tr. Not common. *Marston Green* (G. W. Wynn); *Rugby* = *Overslade*, etc. (Rugby lists); is also recorded by Newman as occurring in the county
— *stabilis*, View. } These two species
— *incerta*, Hufn. (in- } with *gothica* and *pul-*
stabilis, Esp.) } *verulenta* occur in the
greatest abundance on willows in the
spring and in the pupal stage at the
feet of trees in autumn wherever I
have collected
— *opima*, Hb. The only record of this
species is one by Mr. E. A. Laxon
at *Kenilworth* (*Entom.* 1899, p. 166).
I do not know it otherwise as occur-
ring in the county and should like
confirmation
— *gracilis*, F. Not common but well
distributed. *Marston Green*, *Hamp-*
ton-in-Arden (G. W. Wynn); *Knowle*
(R. C. Bradley, etc., etc.); *Olton*
(Blatch Cat.); *Yardley* (Blatch Hand.)

TRIFINÆ (continued)

- Rugby* = *Overslade*, etc. (Rugby lists); *Atherstone* (C. Baker); *Whitchurch* (J. H. Bloom)
- Tœniocampa munda*, Esp. Like *gracilis* not common but well distributed. *Marston Green* (E. C. Tye, G. W. Wynn); *Sutton* (P. W. Abbott, C. J. W.); *Knowle* (R. C. Bradley, etc); *Rugby* = *Overslade*, etc. (Rugby lists); *Kenilworth* (E. A. Laxon, Entom. 1899) *Wolford* (W. C. E. Wheeler)
- Panolis griseovariegata*, Goeze (piniperda, Panz.) Very local; occurs regularly in *Sutton Park*—chiefly in one wood—but is never common there; and is also recorded from *Marston Green* (G. W. Wynn); *Rugby* (Rugby list, 1888 only)
- Calymnia affinis*, L. Well distributed but not common. *Hampton-in-Arden* (common second week in August, 1900, at 'sugar,' G. W. Wynn); *Knowle* and *Hay Woods* (Blatch Coll.); *Marston Green* (one, H. Taylor); *Rugby* = *Brandon Woods*, *Overslade*, etc. (Rugby lists); *Knowle* (W. Kiss); *Atherstone* (C. Baker); *Whitchurch* (L. C. Keighley-Peach); *Wolford* (W. C. E. Wheeler)
- *diffinis*, L. Much less common than *affinis*; only recorded from *Atherstone* (C. Baker); *Wolford* (W. C. E. Wheeler); *Rugby* (Rugby lists)
- *trapezina*, L. Common everywhere
- Cosmia paleacea*, Esp. (*fulvago*, Hb.) Is reported by Mr. C. Baker to occur at *Atherstone*, but I know of no other captures
- Dyschorista suspecta*, Hb. Rare. The only records I have are *Coventry* and *Sutton* (G. W. Wynn); *Whitchurch* (J. H. Bloom)
- *fissipuncta*, Haw. (*upsilon*, Bkh.) Also rare, and my records are very unsatisfactory. *Sutton Park* (Blatch Cat.); *Rugby* (Rugby lists); and it also occurs in F. Enock's 1870 list, but I should like confirmatory records
- Plastenis subtusa*, F. Rare. *Hampton-in-Arden* (one, G. W. Wynn); *Knowle*, *Small Heath* (Blatch Coll.); *Rugby* (N. V. Sidgwick and in Rugby lists); and has also occurred over the border in the suburbs of *Birmingham*
- Cirrhaedia xerampelina*, Hb. Rare. *Knowle* (one, R. C. Bradley at 'light,' Sept. 1, 1886, and Blatch Coll.); *Stechford* in *Worcestershire* (H. Taylor); *Sutton*

INSECTS

TRIFINÆ (continued)

- (Groves); *Persbore Road, Birmingham* = ? *Worcestershire* (J. T. Fountain); *Rugby* (Rugby list, once only, 1892); *Atherstone* (C. Baker); near *Coleshill* (W. H. Bath, *Entom.* 1887, p. 210)
- Anchoscelis lunosa*, Haw. Rare. *Knowle* (R. C. Bradley, W. G. Blatch); *Sutton* (P. W. Abbott); *Yardley* (H. Taylor); *Atherstone* (C. Baker); *Rugby* = *Overslade*, etc. (Rugby lists)
- Orthosia lota*, Cl. Generally distributed but not abundant
- *macilentia*, Hb. Rare. Recorded from *Knowle* (Blatch Coll.); *Saltley* (Blatch Cat.); *Rugby* = *Overslade*, etc. (Rugby lists); *Wolford* (W. C. E. Wheeler); *Chelmsley Wood* (J. T. Fountain)
- *circellaris*, Hufn. (ferruginea, Esp.) Common everywhere
- *helvola*, L. (rufina, Hb.) Not uncommon. *Sutton* (P. W. Abbott, G. W. Wynn); *Hampton-in-Arden*, *Marston Green*, *Knowle* (G. W. Wynn); *Knowle* (H. W. Ellis); *Rugby* = *Overslade*, etc. (Rugby lists); *Atherstone* (C. Baker)
- *pistacina*, F. Common everywhere in great variety
- *litura*, L. Common everywhere
- Xanthia citrigo*, L. Not common. *Sutton* (P. W. Abbott); *Knowle* (R. C. Bradley, G. W. Wynn, etc.); *Hay Woods* (G. W. Wynn, H. W. Ellis, etc.); *Rugby* = *Overslade* (Rugby lists, J. M. Furness); I have also taken it on Staffordshire side of *Birmingham*
- *aurago*, F. Rare. The late Mr. W. G. Blatch took it at *Knowle*, but no other capture anywhere near *Birmingham* is known
- *lutea*, Ström. (flavago, F., silago, Hb.) Common everywhere
- *fulvago*, L. (cerago, F.) Common everywhere. This and *lutea* seem to occur wherever sallow grows, and the two can nearly always be bred if the catkins be gathered. *O. circellaris* usually occurs with them but less frequently
- *gilvago*, Esp. Not common. *Sutton* (P. W. Abbott); *Knowle* (W. G. Blatch, H. W. Ellis); *Hampton-in-Arden* (not uncommon at 'sugar' 1900, G. W. Wynn); *Rugby* = *Overslade*, etc. (Rugby lists); *Atherstone* (C. Baker); *Wolford* (W. C. E. Wheeler)
- Orrhodia vaccinii*, L. Common every-

TRIFINÆ (continued)

- where, frequently very abundant at 'sugar' in the autumn and fallows in the spring
- Orrhodia ligula*, Esp. (spadicea, Haw.) Not so common as *vaccinii* but generally occurs with it, and Mr. W. G. Blatch obtained it in considerable numbers at 'sugar' at *Knowle*. The form we get seems to be always a rich dark brown, and is, I suppose, var. subspadicea, Stgr.
- Scopelosoma satellitia*, L. Common everywhere
- Xylina ornitopus*, Rott. (rhizolitha, Tr.) Not common. *Knowle* (W. G. Blatch); *Solihull* (Blatch Cat.); ? *Rugby* (Rugby list, 1888 only)
- Calocampa vetusta*, Hb. Not common. *Sutton* (H. M. Lee, Blatch Hand., etc.); *Knowle* (W. G. Blatch); *Rugby* = *Overslade*, etc. (Rugby lists)
- *exoleta*, L. Not uncommon. *Marston Green* (E. C. Tye); *Sutton* (P. W. Abbott, G. W. Wynn, etc.); *Knowle* (W. G. Blatch, etc.); *Birmingham* (J. T. Fountain); *Solihull* (Blatch Cat.); *Rugby* = *Overslade*, etc. (Rugby lists)
- Xyllocampa areola*, Esp. (lithorhiza, Tr.) Not common; it occurs regularly at *Knowle* and is also recorded from *Sutton* (H. Taylor); *Coleshill* (Blatch Cat.); *Rugby* = *Overslade*, etc. (Rugby lists); *Wolford* (W. C. E. Wheeler)
- Cucullia verbasci*, L. Not common. *Knowle* (W. G. Blatch); *Rugby* (Rugby lists); *Whitchurch* (J. H. Bloom); *Wolford* (W. C. E. Wheeler)
- *umbratica*, L. } The records of
- *chamomillæ*, Schiff. } these two species are probably mixed and undependable owing to their close resemblance, but both species seem to occur throughout the county, *umbratica* being probably much the commoner
- Anarta myrtilli*, L. Common in *Sutton Park*, and is also recorded from *Hampton-in-Arden* (G. W. Wynn); there are not many other places in the county which I should regard as likely for its occurrence
- Heliaca tenebrata*, Scop. (arbuti, F.) Common locally throughout the county
- Pyrrhia umbra*, Hufn. (*Chariclea marginata*, F.) Very rare; has been recorded from *Coleshill* (Blatch Hand.); *Knowle* (H. Taylor); *Rugby* = *Overslade* (J. M. Furness, Rugby list, 1892)

A HISTORY OF WARWICKSHIRE

TRIFINÆ (continued)

Erastria fasciana, L. (fuscula, Hb.) Very rare. H. R. Brown, in *Entom.* 1882, p. 91, records it from a wood at *Bubbenhall* near *Coventry*, and it is also recorded in Rugby lists as occurring in *Waveley Wood* near *Stoneleigh Park*, also on Mr. H. R. Brown's authority. The two records probably refer to the same capture, and Mr. N. V. Sidgwick tells me the insects are still in the school collection labelled accordingly

Rivula sericealis, Scop. The only records I have of this species are in the Rugby lists in 1874 and 1898, the former on Mr. A. Sidgwick's the latter on Mr. N. V. Sidgwick's authority. Mr. N. V. Sidgwick in a letter confirms the capture and says he took one in *Rugby*

Prothymnia viridaria, Cl. (ænea, Hb.) W. G. Blatch in his Handbook gives *Knowle*, *Coleshill* and *Sutton*, and F. Enock (List, 1869) says common, but I have no recent records except that Mr. W. C. E. Wheeler gives it in his *Wolford* list, and it occurs several times in the Rugby lists—*Brandon Woods*, etc. I feel sure it does not occur at *Sutton* now

GONOPTERINÆ

Scoliopteryx libatrix, L. Generally distributed and fairly common

QUADRIFINÆ

Abrostola triplasia, L. Not common. *Yardley* (E. C. Tye, G. W. Wynn); *Knowle* (W. Kiss, etc.); *Rugby* = *Overslade*, etc. (Rugby lists); *Atherstone* (C. Baker); *Whitchurch* (J. H. Bloom); *Wolford* (W. C. E. Wheeler)

— *tripartita*, Hufn. (urticæ, Hb.) Not common. *Yardley* (E. C. Tye); *Knowle* (Blatch Coll.); *Rugby* = *Overslade*, etc. (Rugby lists); *Atherstone* (C. Baker); *Wolford* (W. C. E. Wheeler)

Plusia chrysitis, L. Throughout the county not uncommon

— *festuæ*, L. I have one specimen taken by my brother in *Sutton Park*, and have a record of its occurrence at *Wolford*, where Mr. W. C. E. Wheeler says his father took it years ago

— *pulchrina*, Haw. (v-aureum, Gn.) Not uncommon throughout the county

— *jota*, L. Not uncommon throughout the county

TRIFINÆ (continued)

Plusia gamma, L. As abundant as elsewhere

Euclidia mi, Cl. Recorded from most parts of the county, but seems to be local. It does not occur at *Sutton*, nor has it been recorded from anywhere nearer to *Birmingham* than *Knowle*

— *glyphica*, L. Usually occurs with the above but there are fewer records for it. *Knowle* (Blatch Hand.); *Rugby* = *Cathiron*, etc. (Rugby lists); *Wolford* (W. C. E. Wheeler); *Whitchurch*, (Worcestershire side, L. C. Keighley-Peach)

Catocala fraxini, L. *Rugby*; one caught by T. M. Wratishaw on August 31, 1880 (see *Entom.* 1880, p. 310)

— *nupta*, L. Not common. *Hampton-in-Arden* (one, 1900, G. W. Wynn); *Knowle* (Blatch Hand.); *Rugby* (N. V. Sidgwick, and Rugby lists); *Warwick* (taken by Mr. Chadwick = P. P. Baly); *Baddesley Clinton* (one, W. Kiss); *Whitchurch* (J. H. Bloom); *Wolford* (common some years, in others scarcely one, W. C. E. Wheeler)

[— *sponsa*, L. Rev. J. H. Bloom tells me that it was taken by Mr. Austen in *Wolford Woods*; I however think it improbable, and it certainly needs confirmation as it is not usually taken in the midlands]

[— *promissa*, Esp. This also comes into the list on a single doubtful record. Mr. W. S. Edmonds records it in Rugby list, 1888, and Mr. N. V. Sidgwick writes me that he assured him he had taken it in *Brandon Woods* and seemed to know it; I consider it however as improbable as the last]

HYPENINÆ

Laspeyria flexula, Schiff. Mr. N. V. Sidgwick tells me he has taken this in *Rugby*, and it occurs several times in the Rugby lists

Zanclognatha tarsipennalis, Tr. Not uncommon. *Coventry* (G. H. Kenrick); *Rugby* = *Brandon Woods*, *Overslade*, *Princethorpe*, etc. (Rugby lists); *Knowle* (Blatch Coll.); *Atherstone* (C. Baker)

— *grisealis*, Hb. (nemoralis, F.) Not uncommon. *Sutton* (R. C. Bradley); *Knowle* (Blatch Coll.); *Rugby* = *Overslade*, etc. (Rugby lists)

Pechipogon barbalis, Cl. *Knowle* (Blatch Coll.); *Rugby* = *Brandon Woods*,

INSECTS

HYPENINÆ (continued)

- Princethorpe*, etc. (Rugby lists); *Atherstone* (C. Baker)
Hypena proboscidalis, L. Common. *Knowle* (R. C. Bradley); *Rugby* (Rugby lists)

CYMATOPHORIDÆ

- Habrosyne derasa*, L. Occurs throughout the county, but not abundantly
Thyatira batis, L. More numerous than *derasa* and equally generally distributed
Cymatophora or (S.V.), F. Rare. *Knowle* (W. Kiss); *Rugby* (Rugby list, once only, 1888)
 — *octogesima*, Hb. (ocularis, Gn.) Mr. E. A. Laxon tells me that two specimens of this species were taken in *Waveley Wood* near *Coventry* in his presence
 — *duplaris*, L. Not common. *Sutton* (G. W. Wynn, J. T. Fountain); *Hay Wood* (G. W. Wynn); *Knowle* (G. W. Wynn, Blatch Coll.); *Rugby* (Rugby list, 1888 only); *Wolford* (W. C. E. Wheeler)
Polyplocia diluta, F. Not uncommon. *Coventry*, *Knowle*, *Marston Green* (G. W. Wynn); *Knowle* (R. C. Bradley, W. Kiss, etc.); *Solihull* (Blatch Coll.); *Rugby* (Rugby list, in 1888 only); *Wolford* (W. C. E. Wheeler); *Whitchurch* (J. H. Bloom); *Chelmsley Wood* (J. T. Fountain)
 — *flavicornis*, L. Not common. *Solihull* (R. C. Bradley); *Marston Green* (E. C. Tye, G. W. Wynn); *Middleton Woods* (P. W. Abbott); *Knowle* (R. C. Bradley, G. W. Wynn, etc.); *Sutton Park* (G. W. Wynn, H. Taylor)
 — *ridens*, F. Rare. I have only one record = *Wolford* (one only, W. C. E. Wheeler); but it has also been taken only just over the border in *Hopwas Wood* by Mr. W. G. Blatch

BREPHIDÆ

- Brephos parthenias*, L. Rare. *Knowle* (W. G. Blatch); *Rugby* = *Brandon Woods*, etc. (Rugby lists); *Wolford Woods* (common in one part, W. C. E. Wheeler)
 — *nothum*, Hb. The Rev. A. H. Wratislaw records it in the Rugby list for 1867

GEOMETRIDÆ

GEOMETRINÆ

- Pseudoterpna pruinata*, Hufn. (cythisaria,

GEOMETRINÆ (continued)

- Schiff.* Not uncommon. *Sutton* (P. W. Abbott, G. W. Wynn, etc.); *Knowle* (Blatch Hand.); *Rugby* (N. V. Sidgwick, and Rugby lists); *Atherstone* (C. Baker); *Wolford* (W. C. E. Wheeler)
Geometra papilionaria, L. Not common. *Marston Green* (E. C. Tye); *Knowle* (R. C. Bradley, W. Kiss, etc.); *Atherstone* (C. Baker); *Rugby* = *Frankton Wood*, *Brandon Woods*, etc. (Rugby lists); *Bubbinhall* near *Coventry* (H. R. Brown, *Entom.* 1882, p. 91)
Euchloris pustulata, Hufn. (bajularia, Schiff.) Not common and local. *Knowle* (W. G. Blatch, W. Kiss); *Solihull* (Blatch Hand.); *Rugby* = *Waveley Wood*, etc. (Rugby lists); *Atherstone* (C. Baker); *Bubbinhall* near *Coventry* (H. R. Brown, 1882, p. 91)
Thalera lactearia, L. Common everywhere
Hemithea strigata, Müll. (thymiaria, Gn.) Not common. *Hampton-in-Arden* (G. W. Wynn); *Knowle* (Blatch Coll.); *Rugby* = *Brandon Woods*, etc. (Rugby lists); *Atherstone* (C. Baker); *Wolford* (Austen, W. C. E. Wheeler); *Whitchurch* (J. H. Bloom)

ACIDALIINÆ

Acidalia dimidiata, Hufn. (scutulata, Bkh.) Common. *Knowle* (R. C. Bradley, etc.); *Hampton-in-Arden* (G. W. Wynn); *Atherstone* (C. Baker); *Rugby* = *Overslade*, etc. (Rugby lists); *Wolford* (W. C. E. Wheeler)
 — *virgularia*, Hb. (incanaria, Hb.) *Solihull* (A. H. Martineau, one in house); *Knowle* (Blatch Cat.); *Wolford* (W. C. E. Wheeler); *Rugby* = *Overslade*, *Princethorpe*, etc. (Rugby lists, quite common, N. V. Sidgwick)
 — *bisetata*, Hufn. Common. *Knowle* (R. C. Bradley, G. W. Wynn); *Stechford* (Blatch Coll.); *Yardley* (H. Taylor); *Rugby* = *Overslade*, etc. (Rugby lists); *Atherstone* (C. Baker); *Wolford* (W. C. E. Wheeler)
 — *dilutaria*, Hb. (osseata [F.], Stt.) *Rugby* = *Brandon village* and *Newbold* (N. V. Sidgwick)
 — *inornata*, Haw. Not common. *Sutton* (W. G. Blatch, G. W. Wynn); *Knowle* (Blatch Coll.); *Rugby* (Rugby list 1888 only)
 — *aversata*, L. Common everywhere

A HISTORY OF WARWICKSHIRE

ACIDALIINÆ (continued)

Acidalia emarginata, L. Doubtfully recorded from *Rugby*; in *Rugby* list 1867 G. B. Longstaff records it, and in a communication to me Mr. N. V. Sidgwick tells me that Mr. A. Sidgwick thinks he saw it years ago, but is not certain

— *remutaria*, Hb. Common. *Sutton* (P. W. Abbott, G. W. Wynn, etc.); *Knowle* (R. C. Bradley, G. W. Wynn, etc.); *Rugby* = *Brandon Woods*, etc. (*Rugby* lists); *Wolford* (W. C. E. Wheeler)

— *immutata*, L. Only recorded from *Wolford* by W. C. E. Wheeler

— *imitaria*, Hb. Not common. *Yardley* (H. Taylor); *Atherstone* (C. Baker); *Whitchurch* (J. H. Bloom); *Wolford* (W. C. E. Wheeler); *Rugby* = *Overslade*, etc. (*Rugby* lists)

Ephyra pendularia, Cl. Not common. *Knowle* (R. C. Bradley, C. J. W., etc.); *Erdington* (Blatch Hand.); *Rugby* = *Brandon Woods*, etc. (*Rugby* lists)

— *annulata*, Schulze (omicronaria [S.V.] Hb. Not common; only recorded in *Rugby* lists = *Brandon Woods*, etc.

— *porata*, F. Not common. *Erdington*, *Knowle* (Blatch Hand.); *Rugby* = *Brandon Woods* (*Rugby* list 1886 only)

— *punctaria*, L. Not uncommon. *Sutton* (C. J. W., etc.); *Knowle* (W. Kiss, R. C. Bradley, etc.); *Erdington* (Blatch Cat.); *Rugby* = *Brandon Woods*, etc. (*Rugby* lists); *Atherstone* (C. Baker); *Coombe Wood* (G. B. Longstaff, *E.M.M.* iii. 138)

Timandra amata, L. (*amataria*, L.) Not common, but generally distributed

LARENTIINÆ

Ortholitha plumbaria, F. (*palumbaria* [S.V.] Tr.) Very common in *Sutton Park*. Also recorded from *Rugby* = *Overslade*, *Brownsover*, etc. (*Rugby* lists); *Atherstone* (C. Baker); and probably common in all suitable localities

— *cervinata*, Schiff. Not common. *Sutton* (P. W. Abbott, R. C. Bradley); *Hampton-in-Arden* (G. W. Wynn); *Knowle* (Blatch Coll.); *Rugby* = *Overslade* (*Rugby* list 1892 only); *Atherstone* (C. Baker); *Rugby* (once only, N. V. Sidgwick)

— *limitata*, Sc. (*mensuraria*, Schiff.) Common throughout the county

LARENTIINÆ (continued)

Odezia atrata, L. (*chærophyllata*, L.) Very local, sometimes occurring in one field only, but it is given in all my lists, and usually is common in the spots where it is found

Anaitis plagiata, L. Not uncommon, and seems to occur throughout the county

[— *paludata*, Thnb., var. *imbutata*, Hb. Both W. G. Blatch in *Brit. Assoc. Hand.* and Enock in his 1869 list mention this as occurring near *Birmingham*. I however do not know of its occurrence nearer than *Chartley Moss*, *Staffordshire*, and do not think it is at all likely to be found in *Warwickshire*]

Chesias spartiata, Fuesl. Very local, but well distributed. *Sutton* (G. W. Wynn); *Knowle* (R. C. Bradley, W. Kiss, etc.); *Rugby* = *Overslade*, etc. (*Rugby* lists); *Atherstone* (C. Baker)

Lobophora carpinata, Bkh. (*lobulata*, Hb.). Rare. It occurs at *Knowle*, where I have taken it; and F. Enock gives it in his list 1870, probably from captures at the same place. At *Hopwas Wood* just over the border it is very common

— *halterata*, Hufn. (*hexapterata*, Schiff.) Rare. Mr. N. V. Sidgwick writes to me that he took it once at *Brandon Woods*, and Rev. J. H. Bloom records it from the *Worcestershire* side of *Whitchurch* parish

— *viretata*, Hb. *Sutton Park* is a well-known headquarters of this usually uncommon insect, and in some years it has been taken there in considerable numbers. Of late years however I fear it has been rendered much rarer by over collecting; at any rate I have not heard of many being taken recently, though that may be because it has not been looked for so much as it used to be

Cheimatobia brumata, L. Very common here as elsewhere

Triphosa dubitata, L. Common everywhere

Eucosmia certata, Hb. Rare. *Atherstone* (C. Baker); *Rugby* = *Overslade*, etc. (*Rugby* lists); *Whitchurch*, *Worcestershire*, J. H. Bloom)

— *undulata*, L. Not common. *Sutton* (C. J. W., etc.); *Knowle* (R. C. Bradley); *Rugby* = *Brandon Woods*, etc., (*Rugby* lists); *Solihull* = *Cut Throat Coppice* (Blatch Cat.)

INSECTS

LARENTIINÆ (continued)

- Scotosia vetulata*, Schiff. Not common.
Salford Priors (J. T. Fountain);
Rugby = *Cawston*, *Overslade*, etc.
 (Rugby lists); *Whitchurch* (Worcestershire, J. H. Bloom); *Wolford*
 (W. C. E. Wheeler); *Rugby* (N. V. Sidgwick)
- *rhamnata*, Schiff. Not common.
Rugby = *Overslade*, etc. (Rugby lists);
Wolford (W. C. E. Wheeler);
Whitchurch (Worcestershire, J. H. Bloom)
- Lygris prunata*, L. (*ribesaria*, B.). Not common. *Hampton-in-Arden* (G. W. Wynn); *Rugby* = *Overslade*, *Princethorpe* (Rugby lists); *Wolford* (W. C. E. Wheeler)
- *testata*, L. Not very common, but occurs throughout the county
- *populata*, L. Not uncommon. *Sutton* (C. J. W., G. W. Wynn, etc.); *Knowle* (R. C. Bradley, etc.); *Solihull* (Blatch Cat.); *Rugby* (Rugby lists); *Atherstone* (C. Baker)
- *associata*, Bkh. (*dotata*, D. L.). Common in gardens, etc. *Yardley* (G. W. Wynn); *Sutton* (R. C. Bradley, etc.); *Hampton-in-Arden* (G. W. Wynn); *Rugby* = *Overslade*, etc. (Rugby lists); *Atherstone* (C. Baker); *Wolford* (W. C. E. Wheeler)
- Larentia dotata*, L. (*pyraliata* [S.V.] Hb.) Common. *Knowle* (C. J. W., etc., etc.); *Solihull* (Blatch Cat.); *Rugby* = *Overslade*, etc. (Rugby lists); *Atherstone* (C. Baker); *Wolford* (W. C. E. Wheeler)
- *fulvata*, Forst. Common everywhere
- *ocellata*, L. " "
- *bicolorata*, Hufn. (*rubiginata* [S.V.] Hb.) Not common. *Sutton Park* (C. J. W.); *Knowle* (R. C. Bradley, etc.); *Olton*, *Solihull* (Blatch Cat.); *Rugby* (Rugby lists); *Atherstone* (C. Baker); *Wolford* (W. C. E. Wheeler)
- *variata*, Schiff. Common locally; *Sutton Park* (very common, C. J. W., etc.); *Hampton-in-Arden*, *Knowle* (G. W. Wynn); *Rugby* = *Overslade*, etc. (Rugby lists)
- *miata*, L. Not uncommon. *Knowle* (W. G. Blatch); *Rugby* = *Overslade*, etc. (Rugby lists); *Atherstone* (C. Baker); *Wolford* (W. C. E. Wheeler)
- *truncata*, Hufn. (*russata* [S.V.] Hb.) }
- *immanata*, Haw. }
- Both these species are, I believe,

LARENTIINÆ (continued)

- common throughout the county, and occur in all their known forms; they are doubtless, however, much mixed up in collections and records
- Larentia firmata*, Hb. Rare. A few larvæ have been taken in *Sutton Park* with those of *variata*, and it is recorded twice in the Rugby lists
- [— *olivata* [S.V.], Bkh. Mr. C. Baker records this species from *Atherstone*, and Rev. J. H. Bloom says it occurs at *Whitchurch*, but I think it very likely dark viridaria have been mistaken for it, and it much needs confirmation]
- *viridaria*, F. (*pectinataria*, Knoch.) Common everywhere
- *fluctuata*, L. Very common everywhere
- *multistrigaria*, Haw. Common in *Sutton Park*; and also recorded from *Knowle* (W. G. Blatch); *Marston Green* (G. W. Wynn); *Small Heath* (Blatch Coll.); *Rugby* = *Princethorpe* (Rugby list 1898 only, D. Campbell)
- *didymata*, L. Very common everywhere
- *montanata*, Schiff. Very common in all the woods
- *suffumata* [S.V.], Hb. Common. *Sutton* (C. J. W., etc.); *Knowle* (R. C. Bradley, etc.); *Rugby* = *Brandon Woods*, *Overslade*, etc. (Rugby lists); *Atherstone* (C. Baker); *Wolford* (W. C. E. Wheeler)
- *quadrifasciaria*, Cl. Occurs in Enock's list 1869, but I think in error
- *ferrugata*, Cl. } I think both these
- *unidentaria*, Haw. } species are common, but the records are untrustworthy owing to the difficulty of distinguishing the two species
- *designata*, Rott. (*propugnata* [S.V.] F.) Not common. *Sutton* (R. C. Bradley, G. W. Wynn, etc.); *Middleton* (R. C. Bradley); *Solihull* (Blatch Cat.); *Rugby* = *Brandon Woods*, *Frankton*, etc. (Rugby lists); *Wolford* (W. C. E. Wheeler)
- *fluviata*, Hb. Mr. W. G. Blatch gives *Knowle* as a locality for this species in his handbook; and Mr. F. Enock includes it in his 1869 list; I however know of no recent capture
- *vittata*, Bkh. (*lignata*, Hb.) Very rare. Mr. P. W. Abbott has taken it at *Sutton*, and the name also occurs once in the Rugby lists 1888

A HISTORY OF WARWICKSHIRE

LARENTIINÆ (continued)

- Larentia dilutata* (S.V.) Bkh. Very common everywhere
- *cuculata*, Hufn. (*sinuata* [S.V.] Hb.)
Mr. W. G. Blatch bred one in 1869 from a larva found at *Knowle*
- *rivata*, Hb. }
- *sociata*, Bkh. (*subtristata*, Haw.) }
There are numerous records of both these species, but I am of opinion that most if not all of the specimens are *sociata*; *Rivata* may occur, but I think it is rare if it does; *sociata* is very common
- *unangulata*, Haw. Rare. *Sutton* (H. M. Lee); *Knowle* (W. G. Blatch, R. C. Bradley, etc.); *Rugby* = *Barby*, *Overslade*, etc. (Rugby lists); *Atherstone* (C. Baker)
- *albicillata*, L. Not common and local; most abundant in *Sutton Park*, where many have been taken; also occurs at *Marston Green* (G. W. Wynn); *Knowle* (H. W. Ellis and W. Kiss); *Solibull* (Blatch Coll.); *Rugby* = *Coombe Wood*, *Brandon Woods*, *Princethorpe*, etc. (Rugby lists); *Atherstone* (C. Baker); *Wolford* (W. C. E. Wheeler); *Whitchurch* (J. H. Bloom)
- *hastata*, L. Rare. *Knowle* (R. C. Bradley, etc.); *Coventry* (G. H. Kenrick); *Rugby* = *Brandon Woods*, etc. (Rugby lists); *Wolford* (Austen, W. C. E. Wheeler)
- *affinitata*, Steph. Common. *Solibull* (Blatch Cat.); *Knowle* (Blatch Coll.); *Rugby* (Rugby list 1899 only); *Atherstone* (C. Baker); *Wolford* (W. C. E. Wheeler)
- *alchemillata*, L. Common. *Knowle* (R. C. Bradley); *Solibull* (Blatch Coll.); *Rugby* = *Overslade* (Rugby lists)
- *albulata*, Schiff. Commoner than the above two species; occurs everywhere
- *testacea*, Don (*Asthena sylvata* [S.V.] Hb.) Rare. *Knowle* = *Chalcot Wood* (R. C. Bradley, W. G. Blatch); *Rugby* (N. V. Sidgwick and Rugby lists); *Wolford* (W. C. E. Wheeler); *Coombe Wood* (G. B. Longstaff, *E.M.M.* iii. 138)
- *obliterata*, Hufn. (*heparata* [S.V.] Haw.) Not common. Occurs at *Sutton* amongst the alders; and at *Marston Green* (G. W. Wynn and E. C. Tye); *Knowle* (R. C. Bradley, etc.); *Solibull* (Blatch Cat.); *Atherstone* (C. Baker)

LARENTIINÆ (continued)

- Larentia luteata*, Schiff. Not common. *Knowle* (W. G. Blatch); *Rugby* = *Brandon Woods*, etc. (Rugby lists); *Atherstone* (C. Baker)
- *flavofasciata*, Thnbg. (*decolorata*, Hb.) Not uncommon. *Yardley*, *Marston Green*, *Sutton* (G. W. Wynn, etc.); *Knowle* (R. C. Bradley); *Rugby* (Rugby lists); *Atherstone* (C. Baker); *Whitchurch* (J. H. Bloom); *Edgbaston* (R. C. R. Jordan, *E.M.M.* iv. 186)
- *bilineata*, L. Common everywhere
- *sordidata*, F. (*elutata*, Hb.) Common everywhere
- *autumnalis*. Ström. (*trifasciata*, Bkh. *impluviata* [S.V.] Hb.) Not common. *Marston Green* (G. W. Wynn); *Sutton* (H. M. Lee, G. W. Wynn, etc., etc.); *Knowle* (R. C. Bradley, etc.); *Solibull* (Blatch Hand.); *Rugby* (Rugby list 1888 only); *Atherstone* (C. Baker)
- [— *ruberata*, Frr. Has been recorded many times, but never seems to stand investigation. I do not believe it occurs with us at all, although it is given in both Enock's lists and Blatch Hand.]
- *silacea* (S.V.), Hb. Not common. *Rugby* (Rugby lists); *Wolford* (W. C. E. Wheeler); *Whitchurch* (J. H. Bloom); *Brandon Woods* (N. V. Sidgwick)
- *corylata*, Thnbg. Common throughout the county
- *badiata* (S.V.) Hb. Common everywhere
- *nigrofasciaria*, Goze (*derivata* [S.V.] Bkh.) Much less common than *badiata*. *Marston Green* (G. W. Wynn); *Knowle* (R. C. Bradley, etc.); *Rugby* = *Overslade*, etc. (Rugby lists); *Atherstone* (C. Baker); *Hampton-in-Arden* (G. W. Wynn); *Wolford* (W. C. E. Wheeler)
- *rubidata* (S.V.), F. Very rare. In the Blatch collection is a specimen bred by Mr. W. G. Blatch from a larva found at *Knowle* in 1869; Mr. C. Baker records it from *Atherstone*, and it is given in the Rugby lists, but Mr. N. V. Sidgwick writes to me that he never heard of its capture and doubts it. It occurs in Mr. Enock's list 1869
- *comitata*, L. *Rugby* = *Overslade*, etc. (Rugby lists and Mr. N. V. Sidgwick); *Atherstone* (C. Baker)

INSECTS

LARENTIINÆ (continued)

- Asthena candidata*, Schiff. Common everywhere in woods
- Tephroclystia oblongata*, Thnbg. (centaureata [S.V.] F.) Not common. *Knowle* (R. C. Bradley, etc.); *Hampton-in-Arden*, *Yardley* (G. W. Wynn); *Rugby* = *Overslade*, *Frankton*, etc. (Rugby lists); *Atherstone* (C. Baker); *Wolford* (W. C. E. Wheeler)
- *linariata* (S.V.), F. Not common. *Knowle* (W. G. Blatch); given in Enock's list 1869 as common, which it is not now anyway
- *pulchellata*, Stph. Not uncommon. *Marston Green* (G. W. Wynn); *Sutton* (R. C. Bradley); *Knowle* (Blatch Coll.); *Rugby* (Rugby list 1888 only); *Edgbaston* (R. C. R. Jordan, *E.M.M.* iv. 186)
- *indigata*, Hb. Fairly common in *Sutton Park*, and also recorded by Mr. N. V. Sidgwick in Rugby list 1859
- *venosata*, F. Not common. *Sutton* (P. W. Abbott, etc.); *Rugby* (Rugby lists); and is given in Enock's list, 1870
- *assimilata*, Gn. Common in gardens on currant bushes round *Birmingham*; also recorded from *Atherstone* (C. Baker); *Rugby* = *Overslade* (J. M. Furness, Rugby list, 1895)
- *absinthiata*, Cl. F. Enock gives it in his 1869 list as common, and it occurs in several Rugby lists, but I know of no capture myself
- *Goossensiata*, Mab. (minutata, Gn.) I have a specimen which I reared from amongst some *Sutton* larvæ
- *vulgata*, Haw. Common everywhere
- *lariciata*, Frr. Common in fir woods. *Sutton* (C. J. W., etc.); *Rugby* (Rugby list, 1867 only); *Knowle* (Blatch Coll.); *Frankton Wood*, *Cawston Spring* (G. B. Longstaff, *E.M.M.* iii. 138)
- *castigata*, Hb. Fairly common. *Sutton* (C. J. W., R. C. Bradley, etc.); *Knowle* (R. C. Bradley); *Rugby* = *Brandon Woods*, etc. (Rugby lists)
- *subnotata*, Hb. Enock says common in his 1869 list, but I do not know of any capture, though I expect it would prove not uncommon if looked for
- *satyrata*, Hb. *Knowle* (W. G. Blatch); *Rugby* (N. V. Sidgwick, Rugby list,

LARENTIINÆ (continued)

- 1888); *Atherstone* (C. Baker). Common (F. Enock, List, 1869)
- Tephroclystia succenturiata*, L. Enock (List, 1869) says common, but I do not think it is; my only record is in the Rugby lists, where it is given by Rev. J. M. Furness
- *subfulvata*, Haw. Not uncommon. Is recorded from *Yardley*, *Hampton-in-Arden* (G. W. Wynn); *Sutton* (P. W. Abbott); *Knowle* (R. C. Bradley); *Rugby* (N. V. Sidgwick, Rugby lists); *Atherstone* (C. Baker)
- *plumbeolata*, Haw. Not common. *Sutton* (G. W. Wynn, R. C. Bradley); ? *Rugby* (Rugby list, 1898 only); *Moseley* (R. C. Bradley = ? Warwickshire)
- *nanata*, Hb. Common at *Sutton* and probably wherever the *Calluna* grows; only recorded however from *Hampton-in-Arden* (G. W. Wynn) and *Knowle* (Blatch Coll.)
- [— *innotata*, Hufn. I have no record of the occurrence of the type more trustworthy than the Rugby School lists. The variety *fraxinata*, Crewe, however almost certainly occurs, though I have no certain Warwickshire record. It is however common on ash trees in the suburbs of *Birmingham* at *Handsworth*, *Moseley*, etc., and I have no doubt also occurs on the Warwickshire side. I believe too that I have seen larvæ on ash trees at *Wylde Green*]
- *abbreviata*, Stph. Seems to occur everywhere in woods and to be fairly common
- *exiguata*, Hb. *Knowle* (W. G. Blatch); *Rugby* = *Overslade*, etc. (Rugby lists several times = N. V. Sidgwick, J. M. Furness, etc.)
- *sobrinata*, Hb. Not common. *Knowle* (R. C. Bradley); *Whitchurch* (J. H. Bloom); *Rugby* = *Overslade* (Rugby list, J. M. Furness, 1892). (Food plant does not occur in this district = *Rugby*, N. V. Sidgwick)
- Chloroclystis coronata*, Hb. Rare. *Sutton* (J. F. Perry); *Wolford* (W. C. E. Wheeler); *Rugby* = *Overslade*, etc. (Rugby lists)
- *rectangulata*, L. Common in gardens and orchards, etc.
- Phibalapteryx tersata* (S.V.), Hb. The only record is one by Rev. J. M. Furness in the Rugby list for 1893, and it needs confirmation

A HISTORY OF WARWICKSHIRE

BOARMIINÆ

- Abraxas grossulariata*, L. Exceedingly abundant in gardens, etc., as usual
- *sylvata*, Sc. Not common and very local. *Knowle* (Blatch Coll., W. Kiss); *Rugby* = *Brandon Woods*, *Newbold Road*, *Overslade*, etc. (Rugby lists); *Atherstone* (C. Baker); *Wolford* (not seen for some time, W. C. E. Wheeler)
- *marginata*, L. Common in woods, etc.
- *adustata*, Schiff. Rare. *Sutton* (P. W. Abbott); ? *Rugby* (Rugby list, 1888 only); *Wolford* (W. C. E. Wheeler)
- Bapta tenerata* (S.V.), Hb. Rare. *Rugby* = *Frankton Woods* (Rugby list, 1886); *Wolford* (W. C. E. Wheeler)
- Deilinia pusaria*, L. Common everywhere. *Ab. rotundaria*, Haw., has occurred. I bred one from a lot of *Sutton* larvæ, and it is also twice recorded in the Rugby lists
- *exanthemata*, Sc. Common everywhere
- Numeria pulveraria*, L. Not common. *Knowle* (C. J. W., etc.); *Hampton-in-Arden* (G. W. Wynn); *Atherstone* (C. Baker); *Rugby* = *Brandon Woods*, etc. (Rugby lists)
- Ellopiæ prosapiaria*, L. (*fasciaria*, Schiff.). Occurs in *Sutton Park*, but not commonly, and the only other record is from *Overslade* = *Rugby* (J. M. Furness, Rugby lists)
- Metrocampa margaritata*, L. Common and generally distributed
- Ennomos quercinaria*, Hufn. (*angularia* [S.V.], Hb.) Not common. *Knowle* (W. G. Blatch, W. Kiss); *Rugby* = *Overslade*, *Frankton Wood*, etc. (Rugby lists); *Whitchurch* (L. C. Keighley-Peach); *Wolford* (W. C. E. Wheeler)
- *alniaria*, L. (*tiliaria*, Bkh.) Fairly common and generally distributed
- *fuscantaria*, Haw. Not common. *Knowle* (R. C. Bradley, etc.); *Rugby* (Rugby lists, bred from larvæ, N. V. Sidgwick); *Atherstone* (C. Baker)
- *erosaria* (S.V.), Hb. Rare. *Marston Green* (R. C. Bradley); *Leamington*, *Knowle* (Blatch Coll.); ? *Rugby* (Rugby list, 1892 only)
- Selenia bilunaria*, Esp. (*illunaria*, Hb.) Occurs throughout the county not uncommonly; also var. *juliaria*, Haw.
- *lunaria*, Schiff. Much less common. *Knowle* (C. J. W., etc.); *Yardley* (G. W. Wynn, etc.); *Marston Green* (R. C. Bradley); near *Bir-*

BOARMIINÆ (continued)

- mingham* (Blatch Hand.); *Rugby* (Rugby lists)
- Selenia tetralunaria*, Hufn. (*illustraria*, Hb.) Not common. *Knowle* (W. G. Blatch); *Rugby* (Rugby lists); also given in Enock's List, 1870
- Hygrochroa syringaria*, L. Seems to occur throughout the county, as it is in every list, but it is far from common
- Gonodontis bidentata*, Cl. Common everywhere
- Himera pennaria*, L. Not uncommon. *Yardley* (G. W. Wynn, etc.); *Knowle* (R. C. Bradley, etc.); *Sutton Park* (Blatch Coll.); *Rugby* = *Overslade*, etc. (Rugby lists); *Atherstone* (C. Baker)
- Crocallis elinguaris*, L. Generally distributed and fairly common
- Ourapteryx sambucaria*, L. Common everywhere
- Eurymene dolobraria*, L. Not common. *Knowle* (R. C. Bradley, W. G. Blatch); *Sutton Park* (W. G. Blatch = not taken for many years, C. J. W.); *Rugby* = *Brandon Woods*, etc. (Rugby lists, many times); *Wolford* (W. C. E. Wheeler)
- Opisthograptis luteolata*, L. (*cratægata*, L.) Very common everywhere
- Epione apiciaria*, Schiff. Seems to occur throughout the county, but it is far from common
- Semiothisa liturata*, Cl. Common in *Sutton Park*; also recorded from *Knowle* (R. C. Bradley, etc.); *Rugby* = *Brandon Woods*, *Frankton*, etc. (Rugby lists); and probably occurs wherever there are fir woods
- Hybernia rupicapraris* (S.V.), Hb. Common throughout the county
- *leucophæaria*, Schiff. Generally distributed and fairly common
- *aurantiaria*, Esp. Not common. *Sutton Park* (C. J. W., etc.); *Yardley* (G. W. Wynn); *Knowle* (R. C. Bradley, etc.); *Atherstone* (C. Baker); *Wolford* (W. C. E. Wheeler)
- *marginaria*, Bkh. (*progemmaria*, Hb.) Very common everywhere. Dark forms are frequent, both the unicolorous var. *fuscata* and also specimens more or less richly clouded with dark colour, the markings remaining as usual
- *defoliaria*, Cl. Very common everywhere. The oaks in *Sutton Park* are in some seasons nearly stripped of their foliage, the larvæ of this

INSECTS

BOARMIINÆ (continued)

species being the chief offenders ; at such times it is uncomfortable to pass through the woods in consequence of the number of pendent silken threads and larvæ which catch one's face, etc. The perfect insects show great variation from a unicolorous brown to pale specimens richly marked with dark bars

Anisopteryx æscularia, Schiff. Generally distributed and fairly common

Phigalia pedaria, F. (pilosaria [S.V.], Hb.) Common. All are of the usual form ; the black form has not yet been noticed. I think however ours are perhaps duller and less richly marked than some southern ones

Biston hispidaria (S.V.), F. Far from common. Occurs regularly in *Chalcot Wood*, *Knowle* ; also recorded from *Hay Wood* and *Umberslade* (W. Kiss) ; *Atherstone* (C. Baker) ; *Sutton Park* (Blatch Hand. ; F. Enock, *Sat. Guide* = has not however been seen there for many years, C. J. W.) ; *Rugby* = *Wolscote*, *Brandon Woods*, etc. (*Rugby* lists)

— *hirtaria*, Cl. Very rare. Mr. W. G. Blatch has it from *Knowle*, and it also occurs in the *Rugby* lists, though from a communication received from Mr. N. V. Sidgwick I think it is probably in mistake

— *strataria*, Hufn. (*prodromaria*, Schiff.) Rare ; but I think it occurs throughout the district. It is usually obtained in the pupal stage, and the greater portion never develop, but emerge and become cripples. Even when found at liberty a large proportion are imperfect

Amphidasis betularia, L. Common throughout the district ; generally taken in the larval stage from poplars, etc. ; var. *Doubledayaria*, Mill., is very common, and although I think the larger portion are still the type, yet the variety is very rapidly obtaining a majority

Hemerophila abruptaria, Thnbg. Not common, but generally distributed, and comes to 'light' sometimes in the suburbs of *Birmingham*

Boarmia gemmaria, Brahm. (*rhomboidaria* [S.V.], Hb.) Common everywhere. Is particularly common in gardens amongst the ivy on houses, etc.

[— *ribeata*, Cl. (*abietaria* [S.V.], Hb.) Is recorded from *Frankton Wood* by G.

BOARMIINÆ (continued)

B. Longstaff in *E.M.M.* 1866, p. 138, but probably in error, as I do not think it occurs with us at all]

Boarmia repandata, L. Common everywhere ; but while *gemma* occurs in gardens, this seems to belong to the woods. Var. *conversaria*, Hb., has not been recorded in the county

— *roboraria*, Schiff. Very rare. It is recorded several times in the *Rugby* lists from *Brandon Woods*, *Frankton*, etc. Mr. W. C. E. Wheeler says it occurs at *Wolford*, but is not common ; and Mr. R. C. Bradley has a specimen supposed to have been taken near *Coventry*

— *lichenaria*, Hufn. Mr. W. C. E. Wheeler gives it in his *Wolford* list, and it occurs in the *Rugby* lists, but I think it is very doubtful if it really occurs in the county

— *crepuscularia* (S.V.), Hb. } I am told

— *bistortata*, Goeze. } that all our specimens are *bistortata*, and that *crepuscularia* is not a midland insect. I confess however that I cannot follow the distinctions or synonymy of this pair of species. Our species is fairly common and generally distributed, and the commoner form seems to be the one with but slight markings and evenly dusted with grey

— *luridata*, Bkh. (*extersaria*, Hb.) Rare. *Wolford* (W. C. E. Wheeler) ; *Rugby* = *Brandon Woods*, etc. (*Rugby* lists) ; *Whitchurch* (L. C. Keighley-Peach)

— *punctularia*, Hb. Not common. *Coventry* (G. H. Kenrick) ; *Atherstone* (C. Baker) ; *Rugby* = *Brandon Woods*, etc. (*Rugby* lists)

Ematurga atomaria, L. Very common in *Sutton Park*, and probably equally so wherever heather grows. Recorded from *Knowle* (R. C. Bradley) ; *Mars-ton Green* (G. W. Wynn) ; *Wolford* (W. C. E. Wheeler) ; *Atherstone* (C. Baker)

Bupalus piniarius, L. Very common in *Sutton Park*, and also recorded from *Knowle* (R. C. Bradley, etc.) ; *Rugby* = *Frankton*, *Brandon Woods*, *Princethorpe*, etc. (*Rugby* lists)

Thamnonoma wauaria, L. Common, especially in gardens

Phasiane petrarica, Hb. Fairly common. *Sutton* (P. W. Abbott, R. C. Bradley, etc.) ; *Knowle* (R. C. Bradley, etc.) ; *Atherstone* (C. Baker) ; *Rugby*

A HISTORY OF WARWICKSHIRE

BOARMIINÆ (continued)

- = *Brandon, Princethorpe*, etc. (Rugby lists); *Wolford* (W. C. E. Wheeler)
- Phasianæ clathrata*, L. Seems to be common in the southern parts of the county, but does not occur at all in the northern. *Rugby* (common, G. B. Longstaff, *E.M.M.* iii. 138, and Rugby lists); *Warwick* (1887, P. P. Baly); *Wolford* (W. C. E. Wheeler, Austen); *Whitchurch* (L. C. Keighley-Peach)
- Perconia strigillaria*, Hb. Mr. W. G. Blatch records this from *Sutton Park*. It must however be very rare there as I have heard of no other captures

NOLIDÆ

- Nola cucullatella*, L. Probably generally common, though I have no records from the southern part of the county excepting in the Rugby lists
- *confusalis*, H. S. (*cristulalis*, Dup.) *Coombe Wood, Coventry* (G. H. Kenrick); *Brandon Woods* = *Rugby* (Rugby lists: practically the same as *Coombe*); *Wolford* (W. C. E. Wheeler)

CYMBIDÆ

- Hylophila prasinana*, L. Common throughout the county

ARCTIIDÆ

ARCTIINÆ

- Spilosoma mendica*, Cl. Not common. *Hampton-in-Arden* (G. W. Wynn); *Knowle* (W. Kiss, etc.); *Small Heath* (Blatch Hand.); *Rugby* = *Overslade*, etc. (Rugby lists); *Atherstone* (C. Baker); *Wolford* (W. C. E. Wheeler)
- *lubricipeda*, L. Common everywhere
- *menthastri*, Esp. " "
- Phragmatobia fuliginosa*, L. Not common. *Sutton Park* (C. J. W., etc.); *Knowle* (Blatch Coll.); *Wolford* (W. C. E. Wheeler); *Atherstone* (C. Baker)
- Parasemia plantaginis*, L. Fairly common in *Sutton Park*; and Mr. W. C. E. Wheeler says it is common in one locality at *Wolford*
- Diacrisia sanio*, L. (*russula*, L.). Rare. Occurs occasionally in *Sutton Park*
- Arctia caja*, L. Common everywhere
- Hipocrita jacobææ*, L. Rare; and has not been taken anywhere near to Birmingham for many years. It is said that it used to be found at *Saltley* (Blatch Hand.); *Rugby* = *Brandon Woods* (Rugby lists = 'very rare, as is

ARCTIINÆ (continued)

its food plant; but it has certainly been taken at *Brandon* by L. Cumming, N. V. Sidgwick); *Atherstone* (C. Baker); *Wolford* (W. C. E. Wheeler, Austen, etc.)

LITHOSIINÆ

- Nudaria mundana*, L. Not common. *Rugby* (Rugby lists); *Wolford* (W. C. E. Wheeler)
- Miltochrista miniata*, Forst. *Brandon Woods* (Rugby lists). It is very rare in the midlands, but the records are probably correct, as the name occurs in several lists and it is a distinct species; moreover Mr. A. Sidgwick is responsible for some of the records
- Cybosia mesomella*, L. Rare. *Knowle* (Blatch Hand.); *Rugby* = *Brandon Woods*, etc. (Rugby lists); also occurs in F. Enock's 1870 List
- Lithosia lurideola*, Zinck. (*complanula*, B.). Generally distributed, but not very common

ZYGÆNIDÆ

ZYGÆNINÆ

- Zygæna trifolii*, Esp. *Knowle* (R. C. Bradley); *Olton, Coventry* (Blatch Coll.); *Rugby* (Rugby lists); *Atherstone* (C. Baker); *Wolford* (W. C. E. Wheeler)
- *loniceræ*, Scheven. *Marston Green* (G. W. Wynn); *Knowle* = *Hay Wood* (Blatch Coll.); *Rugby* (Rugby lists); *Wolford* (W. C. E. Wheeler). I doubt if the above two species are always properly distinguished, and merely give the records as I have received them
- *filipendulæ*, L. The commonest species of the genus, and is recorded from most parts of the county. It is however local, and not often common even locally
- Ino statice*, L. Common in a few restricted localities. *Knowle* (R. C. Bradley, W. Kiss, etc.; very abundant in 1898, H. W. Ellis); *Sutton* (reported only = J. T. Fountain); *Olton, Marston Green* (Blatch Hand.); *Wolford* (Austen); locally common, W. C. E. Wheeler); *Coombe Woods* (G. B. Longstaff, *E.M.M.* 1866, p. 138)

COCHLIDIDÆ

- Heterogenea asella*, Schiff. *Brandon Woods* (one specimen only in 1890, N. V. Sidgwick). Seen and confirmed by Mr. C. G. Barrett

INSECTS

SESIIDÆ

- Trochilium apiformis*, Cl. Not common. *Atherstone* (C. Baker); ? *Warwick* (P. P. Baly); *Salford Priors* (J. T. Fountain)
- *crabroniformis*, Lewin (*bembeciformis*, Hb.). *Rugby* (Rugby lists); Mr. N. V. Sidgwick writes to me that he thinks the record was probably right
- Sesia tipuliformis*, Cl. Common on currant bushes in some of the suburbs of *Birmingham*, and probably in all; not many records of the species, but probably common everywhere
- *vespiformis*, L. (*asiliformis*, Rott.; *cynipiformis*, Esp.). Rare; though probably overlooked. Mr. P. W. Abbott took two at *Sutton* and Mr. H. W. Ellis took it at *Knowle*
- *culiciformis*, L. Rare; though like the last, probably overlooked. Mr. R. C. Bradley took one in his garden at *Sutton*, and it has been taken at or near *Knowle* several times (H. W. Ellis, W. G. Blatch, J. T. Fountain)

COSSIDÆ

- Cossus cossus*, L. (*ligniperda*, F.) Seems to occur throughout the county, but is not often seen, and few specimens exist in collections. Infested trees are however reported from many places
- Zeuzera pyrina*, L. (*æsculi*, L.) Odd specimens turn up throughout the district, even in *Birmingham* and its suburbs, generally being taken at 'light'; but the only place where it seems to be known at home is at *Rugby*, where the schoolboys take it every year and sometimes in numbers

HEPIALIDÆ

- Hepialus humuli*, L. Common everywhere
- *sylvina*, L. Generally distributed, but not common
- *fusconebulosa*, De Geer (*velleda*, Hb.) Not uncommon at *Sutton*, and also recorded from *Hampton-in-Arden* (G. W. Wynn) and *Atherstone* (C. Baker)
- *lupulina*, L. Common everywhere
- *hecta*, L. Common everywhere, though less so than *lupulina*

PYRALIDÆ

CRAMBINÆ

- Crambus tristellus* (S.V.), F. Common
- *perlellus*, Sc. *Knowle* (W. G. Blatch); *Sutton Park* (Blatch Coll.); *Rugby*

CRAMBINÆ (continued)

- = *Overslade*, etc. (Rugby lists); *Whitchurch* (J. H. Bloom)
- Crambus margaritellus*, Hb. *Sutton* (R. C. Bradley). Common (F. Enock, List, 1869)
- *pinellus*, L. (*pinetella*, Tr.). *Knowle* (W. G. Blatch); *Sutton* (Blatch Cat.); *Rugby* = *Brandon Woods*, etc. (Rugby lists); *Whitchurch* (J. H. Bloom)
- *falsellus*, Schiff. *Olton* (Blatch Coll.); *Rugby* (two undoubted specimens in garden, N. V. Sidgwick). Common (F. Enock, List, 1869) ?
- *hortuellus*, Hb. *Knowle* (R. C. Bradley, Blatch Coll.); *Rugby* = *Overslade*, etc. (Rugby lists). Common (F. Enock, 1869)
- *culmellus*, L. Common. *Knowle* (R. C. Bradley); *Rugby* (Rugby lists); *Whitchurch* (J. H. Bloom)
- *pratellus*, L. *Knowle* (R. C. Bradley and Blatch Coll.); *Rugby* = *Overslade*, etc. (Rugby lists); *Whitchurch* (J. H. Bloom). Common (F. Enock, List, 1869)
- *pascuellus*, L. *Knowle* (R. C. Bradley); *Rugby* = *Overslade*, etc. (Rugby lists)

PHYCITINÆ

- Ephestia Kühniella*, Z. *Birmingham* (R. C. Bradley); *Knowle* (Blatch Coll.)
- *calidella*, Gn. (*ficella*, Dougl.) Has been bred locally, but from imported fruit
- *elutella*, Hb. Common. Found in *Birmingham*, etc. (R. C. Bradley)
- Salebria betulæ*, Goeze. *Knowle* (R. C. Bradley)
- Phycita spissicella*, F. *Knowle* (W. G. Blatch); *Rugby* = *Brandon Wood* (N. V. Sidgwick, Rugby lists)
- Acrobasis Zelleri*, Rag. (*tumidella*, Zk.) *Knowle* (W. G. Blatch)
- *consociella*, Hb. *Brandon Woods* (N. V. Sidgwick)
- Rhodophæa advenella*, Zk. *Brandon, Newbold* (N. V. Sidgwick)
- Myelois ceratonix*, Zell. *Rugby* (taken at 'light' in house August 24, 1895, N. V. Sidgwick)
- Cryptoblabes bistriga*, Haw. *Knowle* (W. G. Blatch); *Sutton Park* (Blatch Cat.)

PYRALINÆ

- Aglossa pinguinalis*, L. Common
- Hypsopygia costalis*, F. *Knowle* (W. G. Blatch)
- Pyralis farinalis*, L. Common
- Herculia glaucinalis*, L. *Knowle* (W. G. Blatch). Rare (F. Enock, List, 1869)

A HISTORY OF WARWICKSHIRE

HYDROCAMPINÆ

- Nymphula stagnata*, Don. Common
 — *nymphæata*, L. "
 — *stratitota*, L. *Knowle* (R. C. Bradley);
Sutton Park (Blatch Coll.); *Rugby*
 (Rugby lists). Common (F. Enock,
 List, 1869)

Cataclysta lemnata, L. Common
Eurrhpara urticata, L. Common every-
 where

SCOPARIINÆ

- Scoparia cembræ*, Haw. *Rugby* (several,
 N. V. Sidgwick)
 — *ambigualis*, Tr. *Knowle*, *Sutton* (R. C.
 Bradley); *Rugby* = *Overslade*, etc.
 (Rugby lists). Common (F. Enock,
 List, 1869)
 — *ulmella*, Knaggs. *Knowle* (W. G.
 Blatch)
 — *dubitalis*, Hb. *Rugby* = *Overslade* (J.
 M. Furness, Rugby list, 1893)
 — *truncicolella*, Stt. *Sutton* (W. G.
 Blatch)
 — *cratægella*, Hb. *Knowle* (R. C. Brad-
 ley, Blatch Coll.); *Overslade* = *Rugby*
 (J. M. Furness, Rugby list, 1895)
 — *frequentella*, Stt. (*mercurella*, Stph.)
Knowle, *Sutton* (R. C. Bradley);
Small Heath (Blatch Cat.); *Overs-*
lade = *Rugby* (J. M. Furness, Rugby
 list, 1894). Common (F. Enock,
 List, 1869)

PYRAUSTINÆ

- Sylepta ruralis*, Sc. (*verticalis*, Schiff.)
 Common
Nomophila noctuella, Schiff. Common.
Knowle, etc. (R. C. Bradley); *Rugby*
 = *Overslade*, etc. (Rugby lists).
 Common (F. Enock, List, 1869)
Pionea ferrugalis, Hb. *Overslade* = *Rugby*
 (J. M. Furness, Rugby list, 1893);
 Mr. Bradley also took one at *Mose-*
ley, ? in Warwickshire
 — *prunalis*, Schiff. *Knowle* (common,
 R. C. Bradley); *Rugby* = *Overslade*,
 etc. (Rugby lists). Common (F.
 Enock, List, 1869)
 — *forficalis*, L. Very common every-
 where
 — *lutealis*, Hb. *Knowle* (R. C. Bradley,
 Blatch Coll.); *Rugby* = *Overslade*,
 etc. (Rugby lists). Common (F.
 Enock, List, 1869)
 — *olivalis*, Schiff. *Knowle* (common, R.
 C. Bradley); *Rugby* = *Overslade*, etc.
 (Rugby lists); *Whitchurch* (J. H.
 Bloom). Common (F. Enock, List,
 1869)
Pyrausta fuscalis, Schiff. *Knowle* (R. C.
 Bradley)

PYRAUSTINÆ (continued)

- Pyrausta sambucalis*, Schiff. *Sutton*, *Moseley*
 (R. C. Bradley); *Rugby* = *Overslade*,
 etc. (Rugby lists); *Knowle* (Blatch
 Coll.); *Whitchurch* (J. H. Bloom)
 — *cespitalis*, Schiff. *Rugby* (N. V. Sidg-
 wick and in Rugby lists)
 — *purpuralis*, L. *Rugby* = *Overslade*,
Frankton, etc. (Rugby lists); *Coombe*
Wood (common, G. B. Longstaff,
E.M.M. iii. 138). Rather scarce
 (F. Enock, List, 1869)

PTEROPHORIDÆ

- Platyptilia gonodactyla*, Schiff. *Knowle*
 (R. C. Bradley, Blatch Coll.); *Sut-*
ton (R. C. Bradley); *Rugby* (Rugby
 lists)
Alucita galactodactyla, Hb. *Brandon Woods*
 (N. V. Sidgwick); *Rugby* = *Frankton*,
 etc. (Rugby lists)
 — *pentadactyla*, L. *Knowle* (R. C. Brad-
 ley); *Rugby* = *Brandon*, etc. (Rugby
 lists). Occasional (F. Enock, List,
 1869)
Pterophorus monodactylus, L. (*pterodactyla*,
 Hb.) *Sutton* (R. C. Bradley); *Knowle*
 (W. G. Blatch); near *Birmingham*
 (Blatch Cat.); *Rugby* = *Overslade*, etc.
 (Rugby lists). Occasional (F. Enock,
 List, 1869)
Stenoptilia bipunctidactyla, Haw., var.
plagioidactyla, Stt. *Knowle* (R. C.
 Bradley)
 — *pterodactyla*, L. (*fuscus*, Retz.) *Knowle*,
Sutton (R. C. Bradley); *Hockley*
Heath (Blatch Coll.); *Rugby* = *Overs-*
lade, *Frankton*, etc. (Rugby lists)

ORNEODIDÆ

- Orneodes hexadactyla*, L. Common.
Knowle (Blatch Coll.); *Rugby* =
Overslade, etc. (Rugby lists); *Whit-*
church (J. H. Bloom). Occasional
 (F. Enock, List, 1869)

TORTRICIDÆ

TORTRICINÆ

- Acalla emargana*, F. (*caudana*, F.). *Knowle*
 (abundant, R. C. Bradley); *Rugby*
 (J. M. Furness, Rugby list, 1884)
 — *hastiana*, L. *Knowle* (R. C. Bradley)
 — *variegana*, Schiff. Common every-
 where. *Sutton*, *Knowle*, etc. (R. C.
 Bradley); *Small Heath* (Blatch Cat.);
Rugby (Rugby lists); *Birmingham*
 (R. C. R. Jordan, *E.M.M.* October
 1888). Occasional (F. Enock, List,
 1869)

INSECTS

TORTRICINÆ (continued)

- Acalla sponsana*, F. Moseley, Knowle, Sutton (R. C. Bradley); *Rugby* (N. V. Sidgwick, *Rugby* list, 1898). Occasional (F. Enock, List, 1869)
- *Schalleriana*, F. Knowle (R. C. Bradley, Blatch Coll.)
- *Schalleriana* var. *comparana*, Hb. Knowle (R. C. Bradley); *Rugby* (N. V. Sidgwick)
- *aspersana*, Hb. *Rugby* (Aug. 6, 1896, N. V. Sidgwick); also in Enock's List, 1869
- *Holmiana*, L. Knowle (R. C. Bradley, Blatch Coll.); *Small Heath* (Blatch Cat.); *Rugby* = *Overslade*, etc. (*Rugby* lists). Occasional (F. Enock, List, 1869)
- *contaminana*, Hb. Common everywhere. Dr. Jordan in *E.M.M.* October, 1888, says: 'As far as I have seen the form with the anterior wings unicolorous brown (var. *rhombana*, Stph.) occurs only at *Birmingham*.' Var. *rhombana*, Steph. = *dimidiana*, Frœl.
- Dichelia grotiana*, F. *Small Heath* (Blatch Coll.)
- Capua angustiorana*, Haw. Knowle, Sutton (R. C. Bradley); *Overslade* = *Rugby* (J. M. Furness, *Rugby*, 1894)
- *favillaceana*, Hb. (*ochraceana*, Stph.) Sutton (R. C. Bradley)
- Cacoecia podana*, Sc. (*pyrastrana*, Hb.) Knowle (R. C. Bradley); *Small Heath*, *Solihull* (Blatch Cat.); *Rugby* = *Brandon Woods*, *Overslade*, etc. (*Rugby* lists)
- *xylosteanana*, L. Knowle (R. C. Bradley, etc.); Sutton, *Solihull* (Blatch Cat.); *Rugby* = *Brandon Woods*, *Overslade*, etc. (*Rugby* lists)
- *rosana*, L. Knowle (R. C. Bradley); *Rugby* = *Overslade*, *Brandon*, etc. (*Rugby* lists). Occasional (F. Enock, List, 1869)
- *sorbiana*, Hb. *Solihull* (R. C. Bradley); *Rugby* = *Brandon Woods*, etc. (*Rugby* lists). Occasional (F. Enock, List, 1869)
- *costana*, F. *Small Heath* (Blatch Coll.) Occasional (F. Enock, List, 1869)
- *musculana*, Hb. Sutton (R. C. Bradley); *Rugby* (*Rugby* list, 1867 only)
- *unifasciana*, Dup. Knowle, Sutton (R. C. Bradley); *Small Heath* (Blatch Coll.); *Rugby* = *Overslade*, etc. (*Rugby* lists). Occasional (F. Enock, List, 1869)

TORTRICINÆ (continued)

- Cacoecia lecheana*, L. Knowle, Sutton (R. C. Bradley); *Rugby* = *Brandon Woods* (*Rugby* lists)
- Pandemis ribeana*, Hb. Knowle (R. C. Bradley, etc.); *Small Heath* (Blatch Coll.); *Solihull* (Blatch Cat.); *Rugby* = *Brandon Woods*, *Overslade*, etc. (*Rugby* lists)
- *cinnamomeana*, Tr. Knowle (R. C. Bradley); *Rugby* = *Brandon Woods* (*Rugby* list, 1886 only)
- *heparana*, Schiff. Knowle (R. C. Bradley, Blatch Coll.); *Rugby* = *Overslade*, etc. (*Rugby* list). Occasional (F. Enock, List, 1869)
- Eulia ministrana*, L. *Middleton Woods*, Knowle (R. C. Bradley, etc.); *Rugby* = *Brandon Woods* (*Rugby* lists); occasional (F. Enock, List, 1869); *Birmingham* (var. *ferrugana*, Hb., once, Jordan, *E.M.M.* Oct. 1888)
- Tortrix Forskaleana*, L. Common (R. C. Bradley). Knowle (R. C. Bradley, etc.); Sutton, *Small Heath* (Blatch Cat.); *Rugby* = *Brandon Woods*, *Bilton* (*Rugby* lists)
- *Bergmanniana*, L. Everywhere = Knowle, etc. (R. C. Bradley); *Rugby* = *Overslade*, etc. (*Rugby* lists)
- *Conwayana*, F. Knowle (R. C. Bradley, etc.); *Rugby* = *Overslade*, etc. (*Rugby* lists). Occasional (F. Enock, List, 1869)
- *Loeflingiana*, L. Knowle (with var. *plumbana*, Hb., R. C. Bradley); *Rugby* = *Brandon Woods*, *Overslade*, etc. (*Rugby* lists). Occasional (F. Enock, List, 1869)
- *viridana*, L. Too common everywhere
- *Forsterana*, F. Knowle, Sutton (R. C. Bradley); *Small Heath* (Blatch Coll.); *Rugby* = *Overslade*, etc. (*Rugby* lists). Occasional (F. Enock, List, 1869)
- *paleana*, Hb. Knowle (R. C. Bradley); var. *icterana*, Frœl., *Rugby* = *Kings Newnham* (*Rugby* lists)
- *rusticana*, Tr. Knowle (R. C. Bradley)
- Cnephasia osseana*, Scop. (*pratana*, Hb.) Knowle (R. C. Bradley, Blatch Coll.)
- *longana*, Haw. (*ictericana*, Haw.) Knowle (R. C. Bradley)
- *chrysanthœana*, Dup. Sutton (R. C. Bradley); Knowle (Blatch Coll.)
- *Wahlbomiana*, L., var. *virgaureana*, Tr. Sutton (R. C. Bradley); Knowle, *Small Heath* (Blatch Coll.); *Overslade* (J. M. Furness, *Rugby* lists)
- *incertana*, Tr. (*subjectana*, Gn.) Knowle

A HISTORY OF WARWICKSHIRE

TORTRICINÆ (continued)

- (Blatch Coll., R. C. Bradley); *Rugby* = *Overslade*, etc. (Rugby lists)
Cnephasia pasivana, Hb. (pascuana). *Knowle* (R. C. Bradley)
 — *nubilana*, Hb. *Rugby* = *Overslade*, etc. (Rugby lists and confirmed by N. V. Sidgwick)
Cheimatophila tortricella, Hb. (*Tortricodes hyemana*, Hb.) Common in all woods, etc.
Anisotænia rectifasciana, Haw. (hybridana, Wilk.) *Knowle* (R. C. Bradley, Blatch Coll.); *Rugby* = *Overslade*, etc. (Rugby lists)

CONCHYLINÆ

- Conchylis nana*, Haw. *Sutton* (R. C. Bradley)
 — *maculosana*, Haw. *Knowle, Middleton* (R. C. Bradley)
 — *Hartmanniana*, Cl. (*Baumanniana*, Schiff.). Occasional (F. Enock, List, 1869)
 — *cnicana*, Doubl. *Knowle, Sutton* (R. C. Bradley); *Moseley* (R. C. Bradley); *Small Heath* (Blatch Coll.)
 — *ciliella*, Hb. *Knowle* (R. C. Bradley)
Euxanthis hamana, L. *Knowle* (R. C. Bradley, Blatch Coll.); *Rugby* = *Cathiron*, etc. (Rugby lists). Occasional (F. Enock, List, 1869)
 — *zoegana*, L. *Knowle* (R. C. Bradley); *Rugby* = *Overslade*, etc. (Rugby lists, N. V. Sidgwick)
 — *straminea*, Haw. *Rugby* (I have a specimen which I believe to be this species, N. V. Sidgwick)
 — *angustana*, Hb. *Knowle* (R. C. Bradley)

OLETHREUTINÆ (GRAPHALOTINÆ)

- Evetria buoliana*, Schiff. *Sutton* (R. C. Bradley); *Brandon* (N. V. Sidgwick)
 — *pinicolana*, Doubl. *Sutton Park* (Blatch Coll.)
Olethreutes salicella, L. *Knowle, Sutton* (R. C. Bradley); *Small Heath* (Blatch Coll.); *Rugby* (N. V. Sidgwick). Occasional (F. Enock, List, 1869)
 — *capreana*, Hb. *Frankton Wood* (N. V. Sidgwick)
 — *corticana*, Hb. *Knowle, Moseley* (R. C. Bradley); *Solihull, Knowle* (Blatch Coll.); *Overslade* (J. M. Furness, Rugby lists, 1894)
 — *betulætana*, Haw. *Knowle, Sutton* (R. C. Bradley)
 — *sauciana*, Hb. *Sutton Park* (Blatch Coll.)
 — *variegana*, Hb. Common everywhere

OLETHREUTINÆ (GRAPHALOTINÆ) (continued)

- Olethreutes pruniana*, Hb. *Knowle* (common, R. C. Bradley); *Rugby* = *Brandon Woods, Overslade*, etc. (Rugby lists). Occasional (F. Enock, List, 1869)
 — *nigricostana*, Haw. *Sutton* (R. C. Bradley); once also given in Rugby lists, 1898
 — *striana*, Schiff. *Rugby, Frankton Wood* (N. V. Sidgwick)
 — *branderiana*, L. *Knowle* (R. C. Bradley)
 — *micana*, Hb. *Sutton* (R. C. Bradley)
 — *urticana*, Hb. *Rugby* (Rugby lists). Occasional (F. Enock, List, 1869)
 — *lacunana*, Dup. *Knowle* (R. C. Bradley); *Solihull, Sutton, Coleshill* (Blatch Cat.); *Rugby* = *Brandon Woods*, etc. (Rugby lists). Occasional (F. Enock, List, 1869)
Polychrosis euphorbiana, Frr. One at *Moseley* (R. C. Bradley). This is perhaps outside the county, but just near the border line. It is a most unexpected capture, but the specimen has been named by Mr. C. G. Barrett
Lobesia permixtana, Hb. (*reliquana*, Hb.) *Knowle* (Blatch Coll.); *Rugby* list, once only, 1867
Steganoptycha ramella, L. (*Paykulliana*, Wilk.) *Sutton, Knowle* (R. C. Bradley); *Knowle* (Blatch Coll.) Occasional (F. Enock, List, 1869)
 — *diniana*, Gn. (*pinicolana*, Z.; *occultana*, Dougl.) *Sutton* (R. C. Bradley)
 — *corticana*, Hb. Common everywhere
 — *cruciana*, L. *Knowle* (Blatch Coll.)
 — *trimaculana*, Don. *Knowle, Moseley* (R. C. Bradley); *Rugby* (Rugby lists)
Gypsonoma incarnana, Haw. (*dealbana*, Froel.) *Knowle, Moseley, Sutton* (R. C. Bradley); *Rugby* (N. V. Sidgwick, Rugby list, 1898)
 — *neglectana*, Dup. *Knowle* (Blatch Coll.); *Small Heath* (Blatch Coll.)
Bactra lanceolana, Hb. Everywhere. *Knowle*, etc. (R. C. Bradley); *Sutton* (Blatch Coll.)
Semasia hypericana, Hb. *Knowle* (R. C. Bradley); *Rugby* (N. V. Sidgwick, Rugby list, 1898)
Notocelia Uddmanniana, L. *Knowle* (R. C. Bradley); *Solihull* (Blatch Coll.); *Rugby* = *Bilton, Overslade* (Rugby lists). Occasional (F. Enock, List, 1869)

INSECTS

- OLETHREUTINÆ (GRAPHALOTINÆ) (continued)**
- Notocelia suffusana*, Z. (trimaculana, Haw.)
Knowle (R. C. Bradley); *Rugby* (J. M. Furness, Rugby list, 1894)
- *rosæcolana*, Dbld. *Moseley, Sutton* (R. C. Bradley); *Rugby* (Rugby list, 1890)
- *roborana* (S.V.), Tr. *Knowle, Sutton* (R. C. Bradley); *Small Heath* (Blatch Cat.); *Rugby* (N. V. Sidgwick, Rugby list, 1898)
- *tetragonana*, Stph. *Knowle* (R. C. Bradley)
- Epiblema scopoliana*, Haw. *Rugby* = *Brandon Woods*, etc. (N. V. Sidgwick)
- *tedella*, Cl. *Knowle* (R. C. Bradley); *Rugby* (Rugby lists)
- *subocellana*, Don. *Knowle, Sutton, Middleton* (R. C. Bradley); *Rugby* = *Overslade*, etc. (Rugby lists)
- *nisella*, Cl. *Knowle* (R. C. Bradley)
- *Penkleriana*, F. *Knowle* (R. C. Bradley); *Rugby* = *Bilton* (N. V. Sidgwick, Rugby list, 1898)
- *ophthalmicana*, Hb. *Rugby* (N. V. Sidgwick)
- *solandriana*, L. *Knowle, Sutton* (R. C. Bradley)
- *sordidana*, Hb. *Knowle* (R. C. Bradley)
- *bilunana*, Haw. *Knowle* (Blatch Coll.)
- *tetraquetra*, Haw. *Sutton* (R. C. Bradley); *Rugby* (Rugby list, 1867)
- *immundana*, F. *Sutton* (R. C. Bradley)
- *similana*, Hb. *Knowle* (R. C. Bradley)
- *tripunctana* (S.V.), F. *Knowle* (R. C. Bradley); *Rugby* = *Overslade*, etc. (Rugby lists)
- *Pflugiana*, Haw. *Knowle* (R. C. Bradley); *Coleshill Bog* (Blatch Coll.); *Rugby* = *Princethorpe* (Rugby list, 1898). Occasional (F. Enock, List, 1869)
- *luctuosana*, Dup. (cirsiaria, Z.) *Knowle* (Blatch Coll.) Occasional (F. Enock, List, 1869)
- *Brunnichiana* (S.V.), Froel. *Knowle, Moseley, Sutton* (R. C. Bradley); *Rugby* = *Newbold, Brandon*, etc. (Rugby lists). Occasional (F. Enock, List, 1869)
- Grapholitha Wæberiana*, Schiff. *Moseley* (R. C. Bradley); *Small Heath* (Blatch Coll.); *Brandon Woods* (Rugby list, 1886); *Rugby* (Aug. 11, 1900, N. V. Sidgwick)
- *nigricana*, Stph. *Knowle* (Blatch Coll.); *Rugby* (Rugby list, 1867)
- *succedana* (S.V.), Froel., var. *ulicetana*, Haw. *Knowle* (R. C. Bradley); *Rugby* (Rugby lists)

- OLETHREUTINÆ (GRAPHALOTINÆ) (continued)**
- Grapholitha compositella*, F. *Moseley* (R. C. Bradley)
- *perlepidana*, Haw. *Rugby* (N. V. Sidgwick, etc.)
- *aurana*, F. (mediana, Hb.) *Knowle, Moseley* (R. C. Bradley); *Yardley* (Blatch Coll.)
- Pamene fimbriana*, Haw. *Sutton Park* (Blatch Coll.)
- *argyrana*, Hb. *Moseley, Sutton* (R. C. Bradley); *Knowle, Sutton* (Blatch Coll.) Occasional (F. Enock, List, 1869)
- *splendidulana*, Gn. *Knowle* (R. C. Bradley, Blatch Coll.)
- *populana*, F. *Knowle* (R. C. Bradley)
- *regiana*, Z. *Sutton* (R. C. Bradley)
- *nitidana*, F. *Sutton* (R. C. Bradley); *Brandon* (J. M. Furness, Rugby list, 1894)
- *rhediella*, Cl. *Knowle, Sutton* (R. C. Bradley); *Rugby* (Rugby list, 1867). Occasional (F. Enock, List, 1869)
- Tmetocera ocellana*, F. *Moseley* (R. C. Bradley); *Knowle* (Blatch Cat.); *Rugby* = *Overslade*, etc. (Rugby lists); *Birmingham* (Dr. Jordan, *E.M.M.* Oct. 1888: 'Form with anterior wings entirely black occurs')
- Carpocapsa pomonella*, L. Common. *Sutton, Moseley* (R. C. Bradley)
- Ancylis lundana*, F. *Knowle* (Blatch Coll.); *Rugby* = *Bilton*, etc. (Rugby lists)
- *myrtillana*, Tr. Common = *Sutton*, etc. (R. C. Bradley)
- *siculana*, Hb. *Sutton* (R. C. Bradley)
- *mitterbacheriana*, Schiff. *Knowle* (R. C. Bradley, Blatch Coll.)
- *lætana*, F. *Knowle* (R. C. Bradley, Blatch Coll.)
- Rhopobota nævana*, Hb. *Knowle* (R. C. Bradley); *Small Heath* (Blatch Coll.); *Sutton* (Blatch Cat.); *Rugby* (N. V. Sidgwick, Rugby list, 1898); *Birmingham* (Dr. Jordan, *E.M.M.* Oct. 1888: 'Form with anterior wings deep blackish umber; not rare')
- *nævana* var. *geminana*, Stph. Everywhere (R. C. Bradley)
- Dichrorampha sequana*, Hb. *Knowle* (R. C. Bradley); *Rugby* (N. V. Sidgwick, Rugby lists, 1895, given as *segnana*)
- *petiverella*, L. *Knowle, Sutton* (R. C. Bradley); *Rugby* (N. V. Sidgwick, etc., Rugby lists)
- *alpinana*, Tr. (politana, Gn.) *Rugby* (July 21, 1898, N. V. Sidgwick)
- *acuminatana*, Z. *Princethorpe* (Aug. 16, 1895, N. V. Sidgwick)

A HISTORY OF WARWICKSHIRE

GLYPHIPTERYGIDÆ

CHOREUTINÆ

- Choreutis myllerana*, F. Sutton (R. C. Bradley); *Rugby* (in numbers in 1900, N. V. Sidgwick, etc.) Occasional, F. Enock, List, 1869)
Simæthis Fabriciana, L. (*oxyacanthella*, L.) Everywhere (R. C. Bradley); *Rugby* = *Overslade*, etc. (Rugby lists)

GLYPHIPTERYGINÆ

- Glyphipteryx fuscoviridella*, Haw. *Knowle*, *Moseley* (R. C. Bradley); *Rugby* = *Overslade*, etc. (Rugby lists)
 — *thrasonella*, Sc. *Knowle* (R. C. Bradley)
 — *equitella*, Sc. Sutton, *Moseley* (R. C. Bradley); *Small Heath* (Blatch Coll.)
 — *Fischeriella*, Z. *Knowle* (R. C. Bradley); *Rugby* = *Newbold*, etc. (Rugby lists)

YPONOMEUTIDÆ

YPONOMEUTINÆ

- Yponomeuta padellus*, L. *Knowle* (R. C. Bradley, etc.); *Rugby* = *Overslade*, etc. (Rugby lists). Common (F. Enock, List, 1869)
 — *cognatellus*, Hb. *Knowle* (R. C. Bradley); *Rugby* = *Brandon Woods*, etc. (N. V. Sidgwick, etc.)
Swammerdamia combinella, Hb. *Knowle* (R. C. Bradley); *Rugby* = *Overslade* (J. M. Furness, Rugby list, 1894)
 — *spiniella*, Hb. *Knowle* (R. C. Bradley); *Edgbaston* (Dr. Jordan, *E.M.M.* August, 1887)
 — *griseocapitella*, Stt. *Knowle* (R. C. Bradley)
 — *oxyacanthella*, Dup. *Rugby* (N. V. Sidgwick); *Small Heath* (Blatch Coll.) The above three species are upon the authority of Mr. C. G. Barrett, who tells me that he has little doubt that we have all three species in abundance
 — *pyrella*, Vill. *Knowle*, *Moseley* (R. C. Bradley); *Rugby* (Rugby lists)
Prays curtisellus, Don. *Moseley* (R. C. Bradley); *Olton*, *Solihull*, *Knowle* (Blatch Coll.); *Frankton Woods* (N. V. Sidgwick, Rugby list, 1895); *Birmingham* (R. C. R. Jordan, *E.M.M.* October, 1888). I have seen a large ash tree in *Handsworth* (a Staffordshire suburb of *Birmingham*) with great patches rendered bare by the ravages of the larvæ of this insect
 — *curtisellus* var. *rustica*, Haw., forms a fair percentage of the whole

ARGYRESTHINÆ

- Argyresthia conjugella*, Z. Everywhere (R. C. Bradley); *Overslade* (J. M. Furness, Rugby list, 1894)
 — *spiniella*, Z. *Rugby* (N. V. Sidgwick)
 — *albistria*, Haw. *Rugby* (N. V. Sidgwick, etc.)
 — *ephippella*, F. *Rugby* (N. V. Sidgwick? Rugby lists). Probably correct
 — *nitidella*, F. *Small Heath* (Blatch Coll.); *Rugby* = *Overslade*, etc. (Rugby lists; very common here, N. V. Sidgwick)
 — *nitidella* var. *ossea*, Haw. *Rugby* (several times in and near, N. V. Sidgwick)
 — *retinella*, Z. *Knowle* (R. C. Bradley); *Overslade* (J. M. Furness, Rugby list, 1894)
 — *cornella*, F. (*curvella*, Steph.) Sutton (R. C. Bradley)
 — *Goedartella*, L. Everywhere = Sutton, *Knowle*, etc. (R. C. Bradley; *Frankton Wood* (N. V. Sidgwick, Rugby list, 1897). Occasional (F. Enock, List, 1869)
 — *Brockeella*, Hb. *Knowle*, Sutton (R. C. Bradley); *Rugby* = *Brandon*, etc. (Rugby lists)
Ocnerostoma piniariella, Z. Sutton Park (Blatch Coll.)

PLUTELLIDÆ

PLUTELLINÆ

- Plutella porrectella*, L. *Knowle* (R. C. Bradley); *Overslade* (J. M. Furness, Rugby list, 1894).
 — *maculipennis*, Curt. (*cruciferarum*, Z.). Everywhere (R. C. Bradley); *Rugby* = *Overslade*, etc. (Rugby lists)
Cerostoma vittella, L. *Moseley* (R. C. Bradley); *Small Heath* (Blatch Coll.); *Rugby* (J. M. Furness, Rugby list, 1894); *Birmingham* (a form with anterior wings entirely black occurs rarely, R. C. R. Jordan, *E.M.M.* October, 1888)
 — *radiatella*, Don. *Knowle* (R. C. Bradley); *Rugby* = *Brandon*, etc. (Rugby lists)
 — *parenthesella*, L. (*costella*, F.) *Knowle* (R. C. Bradley); Sutton (Blatch Coll.); *Rugby* (N. V. Sidgwick, Rugby list, 1895)
 — *scabrella*, L. *Rugby* (N. V. Sidgwick)
 — *nemorella*, L. *Frankton Wood* (N. V. Sidgwick)
 — *xylostella*, L. *Knowle* (R. C. Bradley, etc.); *Solihull* (Blatch Cat.); *Rugby* = *Brandon Woods*, *Frankton*, etc., etc. (Rugby lists). Occasional (F. Enock, List, 1869)

INSECTS

GELECHIIDÆ

GELECHIINÆ

- Chelaria Hübnerella, Don. *Knowle* (R. C. Bradley)
 Bryotropha terrella (S.V.), Hb. *Knowle*, *Sutton* (R. C. Bradley); *Overslade* (J. M. Furness, Rugby list, 1894)
 — senectella, Z. *Rugby* (Aug. 4, 1896, N. V. Sidgwick)
 — basaltinella, Z. *Knowle* (R. C. Bradley)
 Gelechia sororcullella, Hb. *Knowle* (Blatch Coll.)
 — eriectella, Hb. *Sutton* (R. C. Bradley)
 — mulinella, Z. *Knowle* (R. C. Bradley)
 — diffinis, Haw. *Sutton* (R. C. Bradley)
 — vulgella, Hb. *Small Heath* (Blatch Coll.)
 — proximella, Hb. *Knowle*, *Sutton* (R. C. Bradley); *Small Heath* (Blatch Coll.)
 — luculella, Hb. *Sutton Park* (Blatch Coll.)
 — dodecella, Z. *Sutton* (Blatch Coll.)
 Tachyptilia populella, Cl. *Knowle* (R. C. Bradley); *Sheldon*, *Knowle* (Blatch Cat.)
 Anacampsis vorticella, Sc. (ligulella, Z.) *Knowle* (R. C. Bradley)
 Epitectis (Brachmia) mouffetella, Schiff. *Knowle*, *Sutton* (R. C. Bradley); *Overslade* (J. M. Furness, Rugby list, 1894); *Rugby* (N. V. Sidgwick)
 Stenolechia (Pœcilia) albiceps, Z. *Moseley* (R. C. Bradley); *Rugby* (N. V. Sidgwick)
 — gemmella, L. (nivea, Haw.) *Rugby* (N. V. Sidgwick)
 Brachmia (Ceratophora) rufescens, Haw. *Knowle* (R. C. Bradley)
 Sophronia semicostella, Hb. (parenthesella, Haw.) *Sutton Park* (Blatch Coll.); *Brandon* (N. V. Sidgwick)

BLASTOBASINÆ

- Endrosis lacteella, Schiff. (fenestrella, Scop.)
 Too common everywhere

ŒCOPHORINÆ

- Pleurota bicostella, Cl. *Coleshill Bog* (Blatch Coll.)
 Chimabache phryganella, Hb. *Sutton* (R. C. Bradley); *Rugby* (J. M. Furness, Rugby list, 1894)
 — fagella (S.V.) F. Very common in woods, etc., varying from almost uniform white to almost uniform dark grey
 Semioscopis avellanella, Hb. *Knowle* (Blatch Coll.)
 Epigraphia Steinkellneriana, Schiff. *Knowle* (Blatch Coll.); *Overslade* (J. M. Furness, Rugby list, 1894); *Rugby* (N. V. Sidgwick)

ŒCOPHORINÆ (continued)

- Depressaria costosa, Haw. *Knowle* (R. C. Bradley); *Coleshill* (Blatch Coll.); *Rugby* (N. V. Sidgwick, Rugby list, 1898)
 — flavella, Hb. (liturella [S.V.] Tr.) *Knowle* (R. C. Bradley)
 — umbellana, Steph. *Sutton* (R. C. Bradley)
 — assimilella, Tr. *Knowle* (R. C. Bradley); *Rugby* (N. V. Sidgwick)
 — arenella, Schiff. *Knowle* (R. C. Bradley, etc.); *Coleshill* (Blatch Coll.); *Overslade* (J. M. Furness, Rugby list, 1893). Occasional, F. Enock, List, 1869)
 — ocellana, F. *Knowle* (R. C. Bradley), and in Rugby list, 1886
 — liturella, Hb. *Knowle* (Blatch Coll.)
 — conterminella, Z. *Knowle* (R. C. Bradley)
 — applana, F. Everywhere = *Knowle*, etc. (R. C. Bradley); *Yardley* (Blatch Coll.); *Rugby* = *Overslade*, etc. (Rugby lists). Occasional, F. Enock, List, 1869)
 — angelicella, Hb. *Knowle* (R. C. Bradley)
 — heracliana, De Geer. *Knowle*, *Sutton* (R. C. Bradley); *Overslade* (J. M. Furness, Rugby, 1893). Occasional (F. Enock, List, 1869)
 Carcina quercana, F. *Knowle* (R. C. Bradley); *Solihull* (Blatch Coll.); *Rugby* = *Overslade*, etc. (Rugby lists). Occasional (F. Enock, List, 1869)
 Alabonia (Harpella) Geoffrella, L. *Knowle* (R. C. Bradley, etc.); *Sutton* (Blatch Coll.) Occasional (F. Enock, List, 1869)
 Œcophora sulphurella, F. Everywhere (R. C. Bradley); *Rugby* (Rugby list, 1886). Occasional (F. Enock, List, 1869)
 Borkhausenia (Œcophora) pseudospretella, Stt. Too common everywhere

ELACHISTIDÆ

SCYTHRIDINÆ

- Schreckensteinia festaliella, Hb. *Sutton* (R. C. Bradley)
 Epermenia (Chauliodus) chærophylella, Goeze. *Rugby* (Sept. 24, 1896, N. V. Sidgwick)
 Scythris (Butalis) grandipennis, Haw. *Sutton* (R. C. Bradley, July 12, 1891)

MOMPHINÆ

- Cataplectica (Œcophora) fulviguttella, Z. *Knowle* (R. C. Bradley); *Coleshill*, *Haselor* (Blatch Coll.)
 Batrachedra præangusta, Haw. *Knowle*,

A HISTORY OF WARWICKSHIRE

MOMPHINÆ (continued)

- Sutton* (R. C. Bradley); *Rugby* (N. V. Sidgwick)
Blastodacna Hellerella, Dup., var. *atra*, Haw. *Knowle* (R. C. Bradley); *Rugby* J. M. Furness, *Rugby* list, 1894)
Mompha (Laverna) *propinquella*, Stt. *Rugby* (July 31, 1898, N. V. Sidgwick)
Chrysoclista linneella, Cl. *Sutton* (R. C. Bradley)
Spuleria aurifrontella, Hb. *Knowle*, *Moseley* (R. C. Bradley)
Psacaphora Schranckella, Hb. *Sutton*, *Knowle* (R. C. Bradley)

HELIOZELINÆ

- Heliozela sericiella*, Haw. *Sutton*, *Knowle* (R. C. Bradley); *Rugby* (N. V. Sidgwick, *Rugby* list, 1897)

COLEOPHORINÆ

- Coleophora loricella*, Hb. *Sutton*, common and destructive (R. C. Bradley)
 — *lutipennella*, Z. *Rugby* (July 30, 1896, N. V. Sidgwick)
 — *gryphipennella*, Bouché. *Knowle*, *Sutton* (R. C. Bradley)
 — *viminetella*, Z. *Knowle* (R. C. Bradley)
 — *fuscedinella*, Z. " "
 — *nigricella*, Stph. *Sutton* (R. C. Bradley); *Rugby* (G. B. Longstaff, *Rugby* list, 1867)
 — *discodella*, Z. *Knowle* (R. C. Bradley)
 — *anatipennella*, Hb. *Knowle* (R. C. Bradley, at 'light,' July 23, 1886)
 — *cæspititiella*, Z. Everywhere. *Knowle*, etc. (R. C. Bradley)

ELACHISTINÆ

- Elachista albifrontella*, Hb. *Sutton*, *Knowle* (R. C. Bradley); *Overslade* (J. M. Furness, *Rugby* list, 1894)
 — *luticomella*, Z. *Sutton* (R. C. Bradley); *Newbold* = *Rugby* (J. M. Furness, *Rugby* list, 1894)
 — *atricomella*, Stt. *Sutton* (R. C. Bradley)
 — *monticola*, Wck.-Hein. *Knowle* (R. C. Bradley)
 — *nigrella*, Haw. *Sutton* (R. C. Bradley)
 — *megerlella*, Stt. " "
 — *rufocinerea*, Haw. *Knowle* (R. C. Bradley); *Rugby* = *Overslade*, etc. (*Rugby* lists)
 — *argentella*, Cl. (*cyanipennella*, Hb.) *Knowle* (R. C. Bradley); *Rugby* = *Overslade*, etc. (*Rugby* lists)

GRACILARIIDÆ

GRACILARIINÆ

- Gracilaria alchimiella*, Sc. *Knowle* (R. C. Bradley); *Sutton Park* (Blatch Cat.); *Rugby* (*Rugby* lists)

GRACILARIINÆ (continued)

- Gracilaria stigmatella*, F. *Knowle* (R. C. Bradley)
 — *elongella*, L. *Knowle* (R. C. Bradley)
Stramineella, Stt., which *Rebel* sinks as a form of this species, is recorded from *Sutton* (R. C. Bradley)
 — *syringella*, F. Common everywhere (R. C. Bradley). The black form of this insect seems to be peculiarly a *Birmingham* insect. It is common at *Edgbaston*, and has already been referred to in various places by Dr. Jordan and others (see *E.M.M.* Oct. 1888). Mr. G. T. Bethune-Baker tells me that although this form occurs in several places in *Edgbaston*, yet in *Clarendon Road* it is confined to one side of the road only. He lived for many years on one side, and the variety was common with the type there; since then he has lived for several years on the other side, and finds there the type without the variety, although the variety is still to be seen in its old quarters as of old. This is a very curious case of extreme localization of a form, and doubtless to some extent explains the fact that it does not occur outside the county
Ornix guttea, Haw. *Knowle* (R. C. Bradley)
 — *anglicella*, Stt. *Rugby* (N. V. Sidgwick, etc.)
 — *avellanella*, Stt. *Knowle* (R. C. Bradley)
 — *torquillela*, Z. " "

LITHOCOLLETINÆ

Lithocolletis Cramerella, F. *Knowle* (R. C. Bradley); *Rugby* = *Overslade*, etc. (*Rugby* lists)
 — *alniella*, Z. (*alnifoliella*, Dup.). *Knowle* (R. C. Bradley)
 — *spinoella*, Dup. *Sutton* (R. C. Bradley)
 — *pomifoliella*, Z. *Rugby* (N. V. Sidgwick) and probably generally common, but no one here has studied this genus properly, so that I cannot be sure which of the apple species occur with us
 — *sorbi*, Frey. *Rugby* (N. V. Sidgwick, April 22, 1898, named by Mr. C. G. Barrett)
 — *faginella*, Z. *Knowle*, *Moseley* (R. C. Bradley)
 — *quercifoliella*, Z. *Sutton*, *Knowle* (R. C. Bradley); *Small Heath* (Blatch Coll.); *Rugby* = *Overslade*, etc. (*Rugby* lists)
 — *messaniella*, Z. *Moseley* (R. C. Bradley)
 — *corylifoliella*, Haw. *Knowle* (R. C. Bradley)

INSECTS

LITHOCOLLETINÆ (continued)

- Lithocolletis trifasciella*, Haw. *Knowle* (R. C. Bradley, Blatch Coll.) and in Rugby list, 1886
Tischeria complanella, Hb. *Sutton* (R. C. Bradley)
 — *marginata*, Haw. *Knowle* (R. C. Bradley) and in Rugby list, 1867

LYONETIIDÆ

LYONETIINÆ

- Lyonetia Clerkella*, L. *Rugby* (J. M. Furness, Rugby list, 1894)

PHYLLOCNISTINÆ

- Cemiostoma spartifoliella*, Hb. Everywhere (R. C. Bradley); *Sutton* (Blatch Cat.)
 — *laburnella*, Stt. Everywhere (R. C. Bradley); *Knowle* (Blatch Coll.); *Rugby* = *Overslade*, etc. (Rugby lists); *Rugby* (abounds, N. V. Sidgwick)

NEPTICULIDÆ

- Nepticula atricapitella*, Haw. *Knowle* (R. C. Bradley)
 — *ruficapitella*, Haw. *Knowle* (R. C. Bradley)
 — *anomalella*, Goeze. *Knowle*, *Sutton* (R. C. Bradley)
 — *oxyacanthella*, Stt. *Knowle* (R. C. Bradley); *Overslade* (J. M. Furness, Rugby list, 1894)
 — *aurella*, F. *Knowle* (R. C. Bradley)
 — *alnetella*, Stt. *Rugby* (N. V. Sidgwick)
 — *microtheriella* Stt. *Knowle* (R. C. Bradley)
 — *floslactella*, Haw. *Sutton Park* (Blatch Coll.)
 — (*Trifurcula*) *pulverosella*, Stt. *Rugby* (N. V. Sidgwick)

TALÆPORIDÆ

- Talæporia tubulosa*, Retz (pseudobombycella, Hb.) *Sutton* (R. C. Bradley)
 [*Solenobia inconspicua*, Stt., has been taken by Mr. W. G. Blatch at *Hoptwas Wood*, just over the border]

TINEIDÆ

TINEINÆ

- Monopis* (*Blabophanes*) *rusticella*, Hb.) *Knowle*, *Sutton* (R. C. Bradley); *Overslade* (J. M. Furness, Rugby list, 1894)
Trichophaga tapetzella, L. Everywhere
Tinea fulvimitrella, Sodof. *Sutton* (R. C.

TINEINÆ (continued)

- Bradley*); *Princethorpe* (Rugby list, 1898)
Tinea arcella, F. *Knowle*, *Digbeth* = *Birmingham* (R. C. Bradley)
 — *granella*, L. *Birmingham* (R. C. Bradley); *Overslade* (J. M. Furness, Rugby list, 1894)
 — *cloacella*, Haw. Everywhere, *Sutton*, *Birmingham*, etc. (R. C. Bradley); *Knowle* (Blatch Coll.); *Rugby* = *Overslade*, etc. (Rugby lists)
 — *fuscipunctella*, Haw. *Rugby* = *Overslade*, etc. (Rugby lists, J. M. Furness, etc.)
 — *pellionella*, L. *Birmingham* (R. C. Bradley); *Rugby* (N. V. Sidgwick); *Overslade* (J. M. Furness, Rugby list, 1894)
 — *pallescentella*, Stt. *Birmingham* (Dr. Jordan, *E.M.M.* 1889, p. 213; and R. C. Bradley, *E.M.M.* 1895, p. 97)
 — *lapella*, Hb. *Knowle* (R. C. Bradley); *Overslade* (J. M. Furness, Rugby list, 1894). Occasional (F. Enock, List, 1869)
 — *semifulvella*, Haw. *Solihull* (A. H. Martineau); *Knowle* (Blatch Coll.); *Overslade* (J. M. Furness, Rugby list, 1894)
Tineola biselliella, Hummel. Everywhere (R. C. Bradley); *Knowle* (Blatch Coll.); *Overslade* (J. M. Furness, Rugby list, 1894)
Incurvaria luzella, Hb. *Sutton* (R. C. Bradley); *Knowle* (Blatch Coll.)
 — *rubiella*, Bjerkander. *Sutton*, *Knowle* (R. C. Bradley)
 — *capitella*, Cl. *Knowle* (R. C. Bradley); *Overslade* (J. M. Furness, Rugby list, 1894)
 — *muscalella*, F. *Knowle*, *Sutton*, *Moseley* (R. C. Bradley); *Rugby*, *Overslade*, etc. (Rugby lists). Occasional (F. Enock, List, 1869)
Nemophora Swammerdammella, L. *Knowle*, *Sutton* (R. C. Bradley and Blatch Coll.); *Rugby* (Rugby lists)
 — *schwarziella*, Z. *Knowle* (R. C. Bradley). Occasional (F. Enock, List, 1869)

ADELINÆ

- Adela viridella*, Sc. Very common in *Sutton Park*, etc., and probably in all woods, etc. *Knowle* (R. C. Bradley); *Rugby* (Rugby lists)
 — *Degeerella*, L. *Knowle* (R. C. Bradley and Blatch Coll.); *Rugby* = *Brandon*, etc. (Rugby lists)

A HISTORY OF WARWICKSHIRE

ERIOCRANIIDÆ

- Eriocrania Sparmannella*, Bosc. *Knowle*
(R. C. Bradley)
— *subpurpurella*, Haw. *Knowle, Sutton*
(R. C. Bradley); *Knowle, Coleshill*
(Blatch Coll.)
— *unimaculella*, Zett. *Rugby* (N. V.
Sidgwick)
— *semipurpurella*, Steph. *Knowle* (R. C.
Bradley); *Coleshill* (Blatch Coll.);
Rugby (N. V. Sidgwick, *Rugby lists*,
1897)

MICROPTERYGIDÆ

- Micropteryx aureatella*, Sc. (*allionella*, F.)
Sutton (R. C. Bradley); near *Bir-*
mingham (Stainton's Manual); *Rugby*
(*Rugby list*, 1867)
— *seppella*, F. *Knowle* (R. C. Bradley);
Rugby (*Rugby list*, 1867)
— *calthella*, L. Very common in *Sutton*
Park in the bogs; also recorded from
Knowle (R. C. Bradley); *Rugby*
(*Rugby list*, 1867)

DIPTERA

I was for a long time very undecided about attempting a list of the Diptera of Warwickshire, and am now far from sure that it is wise to have done so. They are very insufficiently worked, so that it is inevitable that the list must remain very incomplete, and what is far more important, the difficulties of the order are still so great that it is practically impossible to prevent errors creeping in, and a list that is incomplete and possibly inaccurate is of very doubtful value. I have however ventured upon the task, and hope it may prove of some value and interest to others attempting to understand these insects. There are not many of our counties in which dipterists have lived and worked, so that it seems a pity, as Warwickshire is one of the few, that an account of its insect fauna should include no reference to the order.

So far as I know, no one gave any attention to these insects in the midlands until a few years ago when Mr. R. C. Bradley and I took them up, and so far as I know no one else has yet done so excepting in the slightest degree. This list therefore will be based almost entirely upon the results of our own work. Mr. R. C. Bradley lived for some years at Sutton Coldfield, and collected regularly in the Park, etc., so that he had good opportunities of making an extensive list, and has kindly furnished me with much information which he obtained at that time. I have also frequently collected in the Park, and as neither of us has done more than a little casual collecting in any other part of the county, it becomes almost exclusively a Sutton list. I have therefore only named localities when other than Sutton. We have both of us given a considerable amount of attention to the Syrphidæ and allied families, and our work in that section may be taken as probably accurate. Mr. Bradley has also made a considerable collection of Tipulidæ and its allies in the Park, and as Mr. G. H. Verrall has seen them their names also may be taken as fairly reliable. We have also given attention to various other families which will be found represented in the list, but as I have preferred to omit uncertainties, so as to make it I hope more trustworthy though necessarily shorter and more incomplete, I have entirely omitted any reference to many difficult families such as the Cecidomyidæ, Mycetophilidæ, Chironomidæ, etc., only mentioning those insects which are the most conspicuous and characteristic, and

INSECTS

least uncertain as to identification. There has been no attempt to make a complete list, but rather to supply the nucleus of one and to give an idea of the more characteristic dipterous insects of the county fauna.

The system and nomenclature is according to Verrall's *List of British Diptera* published in 1901.

My thanks are due to Mr. Verrall for assistance and advice in the preparation of the list ; to Mr. R. C. Bradley for much information which I have included ; and to the Rev. J. H. Bloom, who assisted me by collecting a few Diptera at Whitchurch.

DIPTERA ORTHORRHAPHA

NEMATOCERA

DIXIDÆ

Dixa maculosa, Mg. ; *nebulosa*, Mg. ;
aprilina, Mg.

PTYCHOPTERIDÆ

Ptychoptera contaminata, L. ; *paludosa*,
Mg. ; *albimana*, F. ; *scutellaris*,
Mg.

LIMNOBIDÆ

LIMNOBINÆ

Limnobia quadrinotata, Mg. ; *nubeculosa*
Mg. ; *flavipes*, F. ; *analisis*, Mcq.
(*nitida*, Verr.) ; *tripunctata*, F. ; *tri-*
vittata, Schum. ; *macrostigma*,
Schum.

Dicranomyia modesta, Mg. ; *chorea*, Mg. ;
didyma, Mg. ; *dumetorum*, Mg. ;
morio, F.

Rhipidia maculata, Mg.

RHAMPHIDINÆ

Rhamphidia longirostris, Mg.
Thaumastoptera calceata, Mik.

ERIOPTERINÆ

Empeda nubila, Schum.
Goniomyia tenella, Mg.
Chilotrichia imbuta, Mg.
Acyphona maculata, Mg.
Molophilus appendiculatus, Stæg. ; *propin-*
quus, Egg. ; *bifilatus*, Verr. ; *ob-*
scurus, Mg. ; *murinus*, Mg.
Rhypholophus nodulosus, Mcq. ; *varius*,
Mg. ; *pentagonalis*, Loew.
Erioptera flavescens, Mg. ; *lutea*, Mg. ;
tænionota, Mg. ; *fuscipennis*, Mg. ;
trivialis, Mg.

Lipsothrix errans, Wlk.

LIMNOPHILINÆ

Idioptera pulchella, Mg.
Ephelia miliaria, Egg. ; *varinervis*, Zett. ;
submarmorata, Verr. ; *marmorata*,
Mg.
Pœcilstola punctata, Schk.

LIMNOPHILINÆ (continued)

Epiphragma picta, F.

Limnophila Meigenii, Verr. ; *lineola*, Mg. ;
aperta, Verr. ; *ferruginea*, Mg. ;
ochracea, Mg. ; *punctum*, Mg. ;
fuscipennis, Mg. ; *discicollis*, Mg. ;
lucorum, Mg. ; *nemoralis*, Mg.

Adelphomyia senilis, Hal.

Trichocera annulata, Mg. ; *regelationis*, L.

AMALOPINÆ

Ula pilosa, Schum.

Dicranota bimaculata, Schum.

Amalopsis immaculata, Mg.

Pedicia rivosa, L.

CYLINDROTOMINÆ

Cylindrotoma distinctissima, Mg.

Phalacroceras replicata, L.

TIPULIDÆ

Dolichopeza sylvicola, Curt.

Pachyrrhina crocata, L. ; *imperialis*, Mg. ;
scurra, Mg. ; *histrio*, F. ; *maculosa*,
Mg. ; *cornicina*, L. ; *guestfalica*,
Westh. ; *quadrifaria*, Mg. ; *annuli-*
cornis, Mg.

Tipula pagana, Mg. ; *obsoleta*, Mg. ; *sig-*
nata, Stæg. ; *rufina*, Mg. ; *longicornis*,
Schum. ; *pabulina*, Mg. ; *varipennis*,
Mg. ; *scripta*, Mg. ; *Diana*, Mg. ;
plumbea, F. ; *pruinosa*, W. ; *lutei-*
pennis, Mg. ; *flavolineata*, Mg. ;
lunata, L. ; *lateralis*, Mg. ; *vernalis*,
Mg. ; *vittata*, Mg. ; *gigantea*,
Schrk. ; *lutescens*, F. ; *oleracea*, L. ;
paludosa, Mg. ; *ochracea*, Mg.

Xiphura atrata, L. (C. J. Wainwright) ;
nigricornis, Mg.

All the above were collected by Mr. Bradley at *Sutton* unless otherwise marked. In *Sutton Park* are several boggy parts, and in these the 'Daddies' are very numerous. *Pedicia rivosa*, L. is probably the most striking species, it is usually common in *Blackroot Bog* and is handsome and conspicuous

A HISTORY OF WARWICKSHIRE

BRACHYCERA

STRATIOMYIDÆ

This family is not at all well represented ; although we have worked the *Sutton* bogs thoroughly, and no more suitable place for them exists in the county so far as I know, the following list contains all the species we have observed and probably nearly all likely to occur

CLITELLARINÆ

Oxycera pygmæa, Fall. Observed by Mr. Bradley only

STRATIOMYINÆ

Stratiomys potamida, Mg. This is the only species of the genus we have seen in the midlands, and only two specimens have been taken, both in *Blackroot Bog*, by myself

SARGINÆ

Sargus flavipes, Mg. (R. C. B.) ; *cuprarius*, L. ? (R. C. B.) ; *iridatus*, Scop. (*infuscatus*, Mg.), not common (R. C. B. and C. J. W.)

Chloromyia formosa, Scop. *Sutton* (R. C. B.) ; *Whitchurch* (J. H. Bloom)

Microchrysa polita, L. ; *flavicornis*, Mg. The commonest species in the family, and *polita*, L. at least occurs everywhere

BERINÆ

Beris clavipes, L. (R. C. B. and C. J. W.) ; *vallata*, Forst. (R. C. B.) ; *chalybeata*, Forst., fairly common ; *geniculata*, Curtis (R. C. B.)

TABANIDÆ

Hæmatopota pluvialis, L., common ; *crassicornis*, Whlbg (R. C. B.)

Theriopectes tropicus, Mg. I have on two occasions captured melanochoic specimens of this genus which may be *var. bisignatus*, Jaen., of this species. I have however never seen the type, and have often wondered if they were not similar vars. of *solstitialis*, Mg.

— *solstitialis*, Mg. Not very common.

Tabanus sudeticus, Zlr. (R. C. B.). Very rare

Chrysops cæcutiens, L., common ; *quadrata*, Mg. (R. C. B.) ; one ♂, C. J. W.) ; *relicta*, Mg. (R. C. B.)

LEPTIDÆ

Leptis scolopacea, L., very common ; *tringaria*, L. ; *lineola*, F.

Chrysopilus aureus, Mg. (R. C. B.) ; *auratus*, F. ; the latter very common in the bogs at *Sutton*

ASILIDÆ

DASYPOGONINÆ

Leptogaster cylindrica, Deg. *Hay Woods* near *Kingswood* (R. C. B. and C. J. W.) ; and *Whitchurch* (J. H. Bloom) ; not seen at *Sutton*

Dioctria rufipes, Deg., common ; *Baumhaueri*, Mg., a few at *Sutton* (R. C. B. and C. J. W.)

ASILINÆ

Machimus atricapillus, Flin. The only true Asilid we have seen is however far from common (a few, R. C. B.)

BOMBYLIDÆ

Bombylius major, L. *Kingswood* (A. H. Martineau) ; no other species seen yet

THEREVIDÆ

Thereva nobilitata, F.

SCENOPINIDÆ

Scenopinus fenestralis, L. *Birmingham* (R. C. B.)

EMPIDÆ

HYBOTINÆ

Hybos grossipes, L. (R. C. B.) ; *femoratus* Müll (R. C. B.)

EMPINÆ

Rhamphomyia nigripes, F. (R. C. B.) ; *sulcata*, Fall. (R. C. B.) ; *plumipes*, Fall. (R. C. B.) ; *geniculata*, Mg. (R. C. B.)

Empis tessellata, F., very abundant ; *livida*, L. (R. C. B.) ; *opaca*, F. (R. C. B.) ; *stercorea*, L. (R. C. B.) ; *trigramma*, Mg. (R. C. B.) ; *punctata*, Mg. (*Whitchurch*, J. H. Bloom)

DIPTERA CYCLORRHAPHA

PROBOSCIDEA

PLATYPEZIDÆ

Callimyia amœna, Mg., rare (R. C. B.)

Platypeza atra Mg. ? (R. C. B.) ; *infumata*, Hal. (R. C. B.)

PIPUNCULIDÆ

Chalarus spurius, Fall. (R. C. B.)

Verrallia pilosa, Zett. (R. C. B.) ; *villosa* v. *Röser* (R. C. B.)

Pipunculus littoralis, Beck (R. C. B.) ; *rufipes*, Mg. (R. C. B.) ; *confusus*,

INSECTS

Verr., *Birmingham* (R. C. B.);
campestris, Latr., common at *Sutton*
(R. C. B., C. J. W.); unicolor,
Zett. (R. C. B.)

SYRPHIDÆ

SYRPHINÆ

- Paragus tibialis*, Fall. (R. C. B.)
Pipizella virens, F. (R. C. B.); *flavitarsis*,
Mg. (R. C. B., C. J. W.), very
rare; *Heringi* Zett., one so named
by Mr. Verrall (C. J. W.)
Pipiza noctiluca, L., very common; *bima-*
culata, Mg. (R. C. B.)
Cnemon vitripennis, Mg. (R. C. B. and
C. J. W.)
Orthonera brevicornis, Lœw, in *Black-*
root Bog every year (C. J. W.);
nobilis, Fall. (R. C. B.); *elegans*,
Mg. (C. J. W., every year). It is
noteworthy that these three species
all occur in *Sutton Park*, *elegans*
and *brevicornis* every year for a
short time only in May, and *nobilis*
only in odd ones
Liogaster splendida, Mg. (R. C. B.);
metallina, F., very common in
Sutton Bog, and occurs with *O. ele-*
gans, Mg., which closely resembles it
Chrysogaster hirtella, Lw., common in the
bog; *solstitialis*, Fln., very abundant
in the bog; *virescens*, Lw., rare,
with the other species; *splendens*,
Mg., very few, also in the bog, but
I think it is a later insect, as I have
only seen it there in August, whereas
the other species are most abundant
in May and June
Chilosia longula, Zett. *Sutton* (one, C. J. W.,
in my collection as *plumulifera*,
Lœw.)
— *scutellata*, Fall. One of the com-
monest species of the genus
— *pulchripes*, Lœw.; *variabilis*, Panz.,
common; *honesta*, Rond. (R. C. B.);
illustrata, Harris, very rare through-
out the midlands, as the only speci-
men either of us has seen is one I
took in *Hay Woods*; *grossa*, Fall.,
rare on willow bloom in spring;
albipila, Meig., rare, with the for-
mer; *albitarsis*, Meig., common in
Sutton Bog; *fraterna*, Mg., common
in the bogs; *Bergenshammi*, Becker
(R. C. B.); *vernalis*, Fall. (R. C. B.)
Platychirus. This genus is very highly
developed in *Warwickshire*, and
occurs freely both in individuals and
species; *manicatus*, Mg., common
everywhere; *discimanus*, Lœw.,

SYRPHINÆ (continued)

- very common in *Sutton Park* in May
and June on late willow blossoms
and on hawthorn; I have seen it in
great numbers; *peltatus*, Meig.,
common everywhere; *scutatus*, Mg.,
very common, especially in gardens,
where I have seen it swarming at
flowers of 'London Pride,' etc.;
albimanus, F., very common every-
where; *scambus*, Stœg, not common,
Sutton only; *perpallidus*, Verr., dis-
covered by Mr. R. C. Bradley in
Sutton Park, and still only known
from there and by odd individuals
from elsewhere; it is rare, however,
and was only taken in one year,
1895; *clypeatus*, Mg., very common
everywhere; *angustatus*, Zett., com-
mon, especially in the *Sutton Bogs*
Pyrophæna granditarsa, Forst.; *rosarum*,
Fab. Both occur not uncommonly
in *Blackroot Bog*; they seem always
associated with boggy land.
Melanostoma is like *Platychirus*, very
highly developed with us: *am-*
biguum, Fall., not uncommon on
hawthorn, etc., in spring; *melli-*
num, L. and *scalare*, F., both very
abundant everywhere, especially
amongst long grass
Melangyna quadrimaculata, Verr., occurs
sometimes in great numbers on the
willows in early spring with *Syrphus*
lasiophthalmus, Zett.; chiefly observed
in *Sutton Park* so far as Warwick-
shire is concerned, but I have found
it wherever I have collected at wil-
low blooms in the midlands
Leucozona lucorum, L. One of the orna-
ments of *Blackroot Bog*, where it is
not uncommon
Ischyrosyrphus glaucius, L. (R. C. B.)
laternarius, Müll, *Sutton* (R. C. B.),
Hay Wood (C. J. W.); both these
species are rare with us
Didea alneti, Fall. *Sutton* (R. C. B.), *Hay*
Woods (C. J. W.); *fasciata*, Macq.,
Sutton (R. C. B.), *Hay Wood* (A. H.
Martineau); *intermedia*, Lœw., *Sut-*
ton (R. C. B.); all three species are
very rare
Catabomba pyrastris, L. (R. C. B.), not com-
mon; *selenitica*, Meig. Mr. R. C.
Bradley found this species in 1894
in *Sutton Park* in considerable num-
bers, flying high up about the pine
trees; so far as I know however it
has not been seen since
Syrphus. The species of this genus occur

A HISTORY OF WARWICKSHIRE

SYRPHINÆ (continued)

in great abundance everywhere : albo-striatus, Fall., not common ; tricinctus, Fall., not uncommon in *Sutton Park* ; venustus, Mg. ; lunulatus, Mg. ; nigricornis, Verr. (R. C. B.) ; torvus, O. S. (R. C. B.) ; annulatus, Zett. ; lineola, Zett., rare (R. C. B.) ; vittiger, Zett., rare (C. J. W.) ; grossulariæ, Mg. (R. C. B.) ; ribesii, L., very abundant ; vitripennis, Mg., common ; latifasciatus, Macq., rare (R. C. B.) ; nitidicollis, Mg. (R. C. B.) ; nitens, Zett. rare ; corollæ, Fab., very abundant ; luniger, Mg., very common ; bifasciatus, Fab., common ; balteatus, De Geer, very common ; cinctellus, Zett. ; cinctus, Fall. (R. C. B.) ; auricollis, Mg. = var. maculicornis, Zett., the variety is the chief if not the only form occurring with us ; punctulatus, Verr., common ; guttatus, Fall., very rare (R. C. B.) ; umbellatarum, F., rare (C. J. W.) ; compositarum, Verr., rare (R. C. B.) ; labiatarum, Verr., rare (R. C. B.) ; lasiophthalmus, Zett., very common in spring on sallow bloom, etc. ; arcticus, Zett., not common ; barbifrons, Fall., rare (R. C. B.)

Sphærophoria scripta, L. (R. C. B.) ; *menthastri*, L., var. *picta*, Meig. is probably our commonest *Sphærophoria* ; var. *tceniata*, Mg., is however common as well ; *menthastri*, L., type is rare at least ; *flavicauda*, Zett. (R. C. B.)

Baccha obscuripennis, Mg. (R. C. B.) ; *elongata*, F.

Sphegina clunipes, Fall., not uncommon

Ascia podagrica, F., very abundant ; *floralis*, Meig., common

Brachyopa bicolor, Fall., very rare, *Birmingham* (R. C. B.)

Rhingia campestris, L. Common

Volucella bombylans, L., common ; *pellucens*, L.

ERISTALINÆ

Eristalis sepulchralis, F., common in *Blackroot Bog* ; *tenax*, L., abundant as usual ; *intricarius*, L., common ; *arbustorum*, L., very abundant ; *pertinax*, Scop., very abundant ; *nemorum*, L., apparently rare ; *horticola*, De Geer, common

Myiatropa florea, L., not common

Helophilustrivittatus, F., very rare (R. C. B.) ; *hybridus*, Loew., not common, *Blackroot Bog* ; *pendulus*, L., common generally ; *versicolor*, F., rather common in *Blackroot Bog* ; *transfugus*, L., rare,

ERISTALINÆ (continued)

a few in *Blackroot Bog* ; *lineatus*, F., the occurrence of this species in great numbers is one of the most characteristic features of *Blackroot Bog*. On a fine day I have seen it in thousands, several at every flower of *Caltha palustris* ; frequently two or three males at a time courting each female in the manner described in Verrall's book

Merodon equestris, F. Has established itself here as elsewhere, and is gradually becoming common

MILESINÆ

Criorrhina berberina, F., very rare ; *oxycanthæ*, Mg., very rare ; *floccosa*, Mg., very rare (R. C. B.)

Brachypalpus bimaculatus, Macq., very rare, one only (R. C. B.) at *Sutton*

Xylota segnis, L., common ; *sylvarum*, L., rare at *Sutton* (R. C. B.), *Idlicote* (L. C. Keighley-Peach), not uncommon at *Hay Woods* (C. J. W.) ; *florum*, F., not uncommon in *Blackroot Bog*

Syritta pipiens, L., very abundant everywhere. The males of this species court the females in a very similar manner to those of *Helophilus lineatus*, F., hovering near with head and body inclined towards the female and the wings in a state of rapid vibration so as to be almost invisible, the body meanwhile also being vibrated

Eumerus ornatus, Mg., *Hay Wood* near *Kingswood* (C. J. W.)

Chrysochlamys cuprea, Scop., *Haywood* near *Kingswood* (C. J. W.), *Idlicote* (L. C. Keighley Peach) ; the species is usually rare wherever I have collected in the midlands

Arctophila mussitans, F., very rare (R. C. B.)

Sericomyia borealis, Fall. and *lappona*, L. Both rather common in *Blackroot Bog*

CHRYSTOXINÆ

Chrysotoxum cautum, Harris., *Whitchurch* (J. H. Bloom) ; *arcuatum*, L., rather common in *Blackroot Bog* ; *festivum*, L., rare (R. C. B.) ; *bicinctum*, L., not uncommon, *Sutton* and *Hay Woods* (C. J. W.), *Idlicote* (L. C. Keighley-Peach)

CONOPIDÆ

CONOPINÆ

Conops flavipes, L. Not common

MYOPINÆ

Sicus ferrugineus, L. (R. C. B.)

Myopa buccata, L., not uncommon at hawthorn blossom, etc. ; *testacea*, L. (R. C. B.)

INSECTS

TACHINIDÆ

TACHININÆ

- Meigenia floralis*, Mg. (R. C. B.)
Ceromasia senilis, Mg., probably generally common, *Moseley* (R. C. B.)
Gymnochæta viridis, Fall., rare, *Sutton*
Exorista vetula, Mg., rare, *Sutton* (R. C. B.)
Blepharidea vulgaris, Fall., common as usual
Phorocera serriventris, Rond. (= *concinata*, Mg.), rare (R. C. B.); *cilipeda*, Rond. (R. C. B.)
Chætolysa quadripustulata, F., *Sutton* (R. C. B.)
Tachina erucarum, Rond. (R. C. B.)
Tricholyga major, Rond. This species, which has not been previously recorded from Britain, has been bred from larvæ of *Saturnia pavonia*, L., which were obtained in *Sutton Park*
Brachychæta (*Desvoidia*) *spinigera*, Rond. (*fusca*, Meade). One specimen from *Marston Green* (C. J. W.)
Aporomyia dubia, Fall., common in *Sutton Park*
Melanota volvulus, F., *Sutton*, *Moseley* (R. C. B.)
Pelatachina tibialis, Fall., *Whitchurch* (J. H. Bloom)
Thelaira leucozona, Panz. (R. C. B.)
Olivieria lateralis, F.
Erigone radicum, F.; *truncata*, Zett. (*appendiculata*, Mcq.), *Sutton* (C. J. W.), *Moseley* (R. C. B.); *rudis*, Fall.
Echinomyia grossa, L., very rare (R. C. B.); *fera*, L., common
Servillia ursina, Mg., not common; on sallows in spring
Plagia ruralis, Fall. (R. C. B.)

THRYPTOCERINÆ

- Siphona cristata*, F.; *geniculata*, Mg.
Roeselia antiqua, Fall. (R. C. B.)
Craspedothrix vivipara, B. & B. This species, not previously known as British, I recognized amongst some insects taken at *Moseley* by Mr. R. C. Bradley; one specimen only

TRIXINÆ

- Trixa œstroidea*, Rob. (R. C. B.)

SARCOPHAGINÆ

- Cynomyia mortuorum*, L., very rare (R. C. B.); *alpina*, Zett. (R. C. B.)
Metopia leucocephala, Rossi.
Sphixapata conica, Rond., not uncommon, *Moseley*, round burrows of *Oxybelus uniglumis*, L. (R. C. B.)

DEXINÆ

- Macronychia agrestis*, Fall., one, *Sutton* (R. C. B.)

ANTHOMYIDÆ

MYDÆINÆ

- Polieta lardaria*, F., common as usual; *albolineata*, Fall., *Sutton*
Hyetodesia incana, W.; *lucorum*, Fall., *Sutton* (R. C. B.), *Coleshill* (C. J. W.); *marmorata*, Zett.; *serva*, Mg.; *obscurata*, Mg. (C. J. W.); *errans*, Mg. (R. C. B.); *erratica*, Fall. (R. C. B.); *vagans*, Fall., this is an addition to the British list and is common in *Blackroot Bog*; *basalis*, Zett. (R. C. B.); *rufipalpis*, Macq. (R. C. B.); *scutellaris*, Fall.; *populi*, Mg.; *pallida*, F.
Allæostylus simplex, W. (R. C. B.); *sudeticus*, Schnbl. (R. C. B.); *flaveola*, Flin. (R. C. B.)
Mydæa vespertina, Fall., common in *Blackroot Bog*; *urbana*, Mg. (R. C. B.); *pagana*, F. (R. C. B.); *impuncta*, Fall.
Spilogaster maculosa, Mg.; *duplaris*, Zett.: *communis*, Desv.; *quadrum*, F.; *tetrastigma*, Mg.; *pertusa*, Mg., all *Sutton* (R. C. B.); *uliginosa*, Fall., *Birmingham* (R. C. B.); *trigonalis*, Mg. (R. C. B.)
Limnophora compuncta, W.; *litorea*, Fall. (both R. C. B.)
Hydrotæa ciliata, F.; *irritans*, Fall.; *dentipes*, F., very common
Ophyra leucostoma, W. (R. C. B.)
Drymia hamata, Fall. (R. C. B.)
Pogonomyia alpicola, Rond. (R. C. B.)
Trichopticus cunctans, Mg. (R. C. B.); *hirsutulus*, Zett. (C. J. W.)

ANTHOMYINÆ

- Hydrophoria conica*, W. (R. C. B.); *socia*, Fall. (R. C. B.)
Hylemyia variata, Fall. (R. C. B.); *lasciva*, Zett. (R. C. B.); *nigrescens*, Rond. (R. C. B.); *flavipennis*, Fall. (R. C. B.); *seticrura*, Rond. (R. C. B.); *strigosa*, F., common; *præpotens*, Mg. (R. C. B.); *nigrimana*, Mg. (R. C. B.); *coarctata*, Fall. (R. C. B.)
Mycophaga fungorum, Deg. (R. C. B.)
Anthomyia pluvialis, L., common; *sulci-ventris*, Zett., common (C. J. W.)
Chortophila albescens, Zett. (R. C. B.); *sylvestris*, Fall. (R. C. B.)
Phorbia floccosa, Macq. (R. C. B.); *transversalis*, Zett. (R. C. B.); *muscaria*, Mg., very common on sallow bloom in spring; *ignota*, Rond.; *seneciella*, Meade, one (C. J. W.); *cepetorum*, Meade, one (C. J. W.)
Pegomyia hæmorrhoum, Zett. (R. C. B.); *transversa*, Fall. (R. C. B.); *bicolor*, W. (R. C. B.); *latitarsis*, Zett. (R. C. B.); *nigritarsis*, Zett. (R. C. B.)

A HISTORY OF WARWICKSHIRE

HOMALOMYINÆ

Homalomyia hamata, Mcq. (R. C. B.); *scalaris*, F., common; *canicularis*, L., common everywhere as usual; *aërea*, Zett. (R. C. B.)

Azelia Zetterstedti, Rond. (R. C. B.); *cilipes*, Hal. (R. C. B.); *triquetra*, W. (R. C. B.)

Cœlomyia mollissima, Hal., not uncommon in *Blackroot Bog*

CÆNOSINÆ

Caricea tigrina, F. (R. C. B.); *humilis*, Mg. (R. C. B.)

Cœnosia elegantula, Rond. (R. C. B.); *sexnotata*, Mg. *Birmingham* (R. C. B.)

CORDYLURIDÆ

Cordylura pudica, Mg.; *ciliata*, Mg., common in *Blackroot Bog*

Parallelomma albipes, Fall., common in *Blackroot Bog*; *vittata*, Mg. (R. C. B.)

Cnemopogon apicalis, Mg. (R. C. B.)

Norellia spinimana, Fall. (R. C. B.)

Pogonota hircus, Zett., *Blackroot Bog*, *Sutton*, where it is not uncommon. It was first made known as British through specimens taken there by Mr. R. C. Bradley

Trichopalpus fraternus, Mg. (R. C. B.)

Spathiophora hydromyzina, Flin. (Falleni, Sch.) (R. C. B.)

Scatophaga scybalaria, L., rare, *Sutton Park*

Coniosternum obscurum, Flin. (R. C. B.)

HELOMYZIDÆ

Helomyza pectoralis, Lœw.; *lœvifrons*, Lœw.; *flava*, Mg.; *rufa*, Flin. (variegata, Lœw.); *Zetterstedti*, Lœw.; *pallida*, Flin. (*olens*, Mg.); all *Sutton* (R. C. B.)

Œcothea fenestralis, Flin. } *Birmingham*
Blepharoptera serrata, L. } (R. C. B.)
Tephrochlamys rufiventris, Mg. (R. C. B.); *flavipes*, Zett. (R. C. B.)

HETERONEURIDÆ

Heteroneura albimana, Mg. (R. C. B.)

Stomphastica flava, Mg. (R. C. B.)

SCIOMYZIDÆ

Dryomyza flaveola, F. (R. C. B.)

Neuroctena anilis, Fall. (R. C. B.)

Sciomyza pallida, Fall.; *albocostata*, Fall. (R. C. B.); *dubia*, Fall. (R. C. B.); *fuscinervis*, Zett. (R. C. B.)

Tetanocera elata, F.; *sylvatica*, Mg.; *feruginea*, Flin.; *lœvifrons*, Lœw. (R. C. B.); *robusta*, Lœw. (R. C. B.); *coryleti*, Scop. (*reticulata*, F.) (R. C. B.)

Limnia unguicornis, Scop., very common in *Blackroot Bog*; *rufifrons*, F. (R. C. B.)

Elgiva dorsalis, F. (R. C. B.); *rufa*, Pz. (R. C. B.); *cucularia*, L. (R. C. B.)

Sepedon sphegeus, F., very rare in *Blackroot Bog*

PSILIDÆ

Psila fimetaria, L.

Chyliza leptogaster, Pz. (R. C. B.)

Loxocera aristata, Pz., common (R. C. B.); *albisetæ*, Schrk. (R. C. B.); *sylvatica*, Mg. (R. C. B.)

MICROPEZIDÆ

Micropeza corrigiolata, L. (R. C. B.)

Calobata cothurnata, Pz. (R. C. B.); *petronella*, L. (R. C. B.)

ORTALIDÆ

PLATYSTOMINÆ

Platystoma seminationis, F., one in a box of insects received from the Rev. J. H. Bloom from *Whitchurch*

ULIDINÆ

Seoptera vibrans, L.

TRYPETIDÆ

Acidia heraclei, L., not uncommon; *cognata*, W. (R. C. B.); *lychnidis*, F. (R. C. B.)

Spilographa Zoë, Mg., not uncommon

Rhacochlæna toxoneura, Lœw., one at *Sutton* on a window in the house; the only recorded British specimen (R. C. B.)

Trypeta onotrophes, Lœw., rare, *Sutton*; *tussilaginis*, F., common, *Hay Woods* (C. J. W.)

Carphotricha pupillata, Fall., *Solihull*, one (A. H. Martineau)

Tephritis miliaria, Schrk., *Hay Woods* (C. J. W.), *Sutton* (R. C. B.)

LONCHÆIDÆ

Lonchæa vaginalis, Fall. (R. C. B.); *chorea*, F. (R. C. B.); *tarsata*, Fall. (R. C. B.)

Palloptra ustulata, Fall. (R. C. B.); *umbellatarum*, F. (R. C. B.); *saltuum*, L. (R. C. B.); *arcuata*, Fall. (R. C. B.)

Toxoneura muliebris, Harris (R. C. B.)

SAPROMYZIDÆ

Sapromyza rorida, Fall. (R. C. B.); *præusta*, Fall. (R. C. B.); *lupulina*, F. (C. J. W.); *decempunctata*, Fall. (C. J. W.); *apicalis*, Lœw. (C. J. W.)

Lauxania cylindricornis, F. (R. C. B.); *ænea*, Fall. (R. C. B.)

INSECTS

OPOMYZIDÆ

Balioptera tripunctata, Fall. (R. C. B.);
combinata, L., common; *venusta*,
 Mg., *Handsworth* (C. J. W.)
Opomyza germinationis, L., very common

SEPSIDÆ

Sepsis violacea, Mg. (R. C. B.); *cynipsea*,
 L. (R. C. B.)

Nemopoda cylindrica, F.

Themira putris, L. (R. C. B.)

PIOPHILIDÆ

Piophila casei, L., common

Madiza glabra, Fall. (R. C. B.)

HEMIPTERA HETEROPTERA

In compiling the following list I have been much indebted to the Rev. J. H. Bloom, M.A., of Whitchurch Rectory, for his kindness in sending me his records of insects from that district, which he informs me were named by the British Museum authorities.

The records of the late Mr. W. G. Blatch have been taken from his collection, which is now in my possession.

The records are my own where not otherwise stated.

I am also grateful to Mr. Edward Saunders, F.L.S., F.E.S., for his assistance, and I have followed the nomenclature of his *Catalogue of British Hemiptera*, dated 1890.

The list is not a very comprehensive one, and, unfortunately, comparatively little work has been done in this order in the district. There is much room for additions, and I have little doubt that assiduous workers could soon enlarge our list of species and records.

GYMNOCERATA

CYNIDÆ

Sehirus bicolor, Lin. *Whitchurch* (Bloom)

PENTATOMIDÆ

Tropidoris rufipes, Lin. *Knowle*

Piezodorus lituratus, Fab., Stal. *Knowle*

ASOPIDÆ

Picromerus bidens, Lin. *Knowle*

Zicrona cærulea, Lin. *Whitchurch* (Bloom)

ACANTHOSOMIDÆ

Acanthosma hæmorrhoidale, Lin. *Knowle*
 (Blatch); *Whitchurch* (Bloom);
Packwood

— *dentatum*, De G. *Coleshill* (Blatch);
Knowle

— *interstinctum*, Lin. *Knowle*, *Coleshill*
 (Blatch)

COREIDÆ

Coreus denticulatus, Scop. *Knowle* (Blatch)

BERYTIDÆ

Berytus minor, H. S. *Whitchurch* (Bloom)

CYMIDÆ

Cymus glandicolor, Hahn. *Sutton Coldfield*
 (Blatch)

— *clavicularius*, Fall. *Coleshill*

PACHYMERIDÆ

Peritrechus luniger, Schill. *Knowle* (Blatch)

PACHYMERIDÆ (continued)

Drymus sylvaticus, Fab. *Knowle* (Blatch);
Packwood

— *brunneus*, Sabilb. *Knowle* (Blatch)

Notochilus contractus, H. S. *Leamington*
 (Blatch)

Scolopostethus affinis, Schill. *Whitchurch*
 (Bloom)

TINGIDIDÆ

Serenthia læta, Fall. *Coleshill*

Orthostira cervina, Germ. *Knowle* (Blatch)
 — *parvula*, Fall. *Salford Priors* (Blatch)

Dictyonota strichnocera, Fieb. *Knowle*

Derephysia foliacea, Fall. *Knowle* (Blatch)

Monanthia cardui, Lin. *Knowle*

— *humuli*, Fab. *Coleshill* (Blatch)

ARADIDÆ

Aradus depressus, Fab. *Knowle*; *Salford*
Priors (Blatch)

HYDROMETRIDÆ

Hydrometra stagnorum, Lin. *Solihull*
 (Blatch): *Knowle*

VELIIDÆ

Microvelia pygmæa, Duf. *Knowle* (Blatch)

Velia currens, Fab. *Earlswood* (Blatch);
Knowle

GERRIDÆ

Gerris najas. *Earlswood* (Blatch)

A HISTORY OF WARWICKSHIRE

GERRIDÆ (continued)

- Gerris thoracica*, Schun. *Earlswood*
 — *lacustris*, Lin. *Whitchurch* (Bloom)
 — *odontogaster*, Zett. *Earlswood* (Blatch);
Coleshill
 — *argentata*, Schun. *Sutton Coldfield*

EMESIDÆ

- Ploiaria vagabunda*, Lin. *Knowle* (Blatch)

REDUVIIDÆ

- Reduvius personatus*, Lin. *Whitchurch*
 (Bloom); *Solihull* (Martineau)

NABIDÆ

- Nabis brevipennis*, Hahn. *Whitchurch*
 (Bloom)
 — *major*, Cost. *Knowle*
 — *limbatus*, Dahlb. *Whitchurch* (Bloom)
 — *ferus*, Lin. *Coleshill* (Blatch)
 — *rugosus*, Lin. " "
 — *erecetorum*, Scholtz. *Coleshill* (Blatch)

SALDIDÆ

- Salda saltatoria*, Lin. *Sutton Coldfield*
 — *cincta*, H. S. *Sutton Coldfield*; *Coleshill*
 (Blatch); *Knowle*
 — *cocksii*, Curt. *Knowle*

CIMIDÆ

- Cimex lectularius*, Lin. *Birmingham*
 (Blatch)

ANTHOCORIDÆ

- Lycocoris campestris*, Fall. *Knowle*
Piezostethus galactinus, Fieb. *Edgbaston*
 (Blatch); *Knowle*
 — *cursitans*, Fall. *Knowle*
Triphleps nigra, Wolff. *Whitchurch*
 (Bloom); *Knowle*
 — *majuscula*, Reut. *Whitchurch* (Bloom)
 — *minuta*, Lin. *Whitchurch* (Bloom);
Salford Priors (Blatch); *Knowle*
Xylocoris ater, Duf. *Salford Priors* (Blatch)

MICROPHYSIDÆ

- Microphysa pselophiformis*, Curt. *Solihull*

CAPSIDÆ

- Miris calcaratus*, Fall. *Sutton Coldfield*
 (Blatch); *Knowle*, *Coleshill*
Leptopterna ferrugata, Fall. *Whitchurch*
 (Bloom); *Knowle*
 — *dolabrata*, Lin. *Knowle* (Blatch)
Monalocoris flicis, Lin. " "
Lopus gothicus, Lin. *Knowle*
Phytocaris dimidiatus. *Whitchurch* (Bloom)
 — *ulmi*, Lin. *Salford Priors* (Blatch);
Knowle
Calocoris sexguttatus, Fab. *Knowle* (Blatch)
 — *striatellus*, Fab. *Knowle*
 — *fulvomaculatus*, De G. *Salford Priors*
 (Blatch); *Knowle*
 — *bipunctatus*, Fab. *Knowle*
Lygus pratensis, Fab. *Knowle* (Blatch)
 — *contaminatus*, Fall. " "

CAPSIDÆ (continued)

- Lygus spinolæ*, Mey. *Whitchurch* (Bloom)
 — *pabulimis*, Lin. " "
 — *cervinus*, H.S. *Knowle*
Pæciloscytus unifaciatus, Fab. *Sutton*
Coldfield (Blatch)
Liocoris tripustulatus, Fab. *Whitchurch*
 (Bloom)
Capsus lanarius, Lin. *Smallheath*, *Salford*
Priors (Blatch)
Rhopalotomus ater, Lin. *Whitchurch*
 (Bloom)
Dicyphus stachydis, Reut. *Knowle* (Blatch)
 — *globulifer*, Fall. *Knowle* (Blatch)
Cyllocoris flavonotatus, Boh. *Whitchurch*
 (Bloom)
 — *histrionicus*, Lin. *Knowle*
Ætorhinus angulatus, Fab. *Knowle*
Orthotylus marginalis, Reut. *Knowle*
 (Blatch)
Heterotoma merioptera, Scop. } *Whitchurch*
Harpocera thoracica, Fall. } (Bloom)
Phylus melanocephalus, Lin. *Sutton Cold-*
field (Blatch); *Knowle*
 — *coryli*, Lin. *Whitchurch* (Bloom)
 — " var. *avellanæ*, Mey. *Salford*
Priors (Blatch)
Psallus betuleti, Fall. *Knowle*
 — *quercus*, Rb. *Sutton Coldfield* (Blatch)
 — *Fallenii*, Reut. " " "
Plagiognathus arbustorum, Fab. *Knowle*

CRYPTOCERATA

NEPINA

- Nepa cinerea*, Lin. *Whitchurch* (Bloom);
Knowle (Blatch); *Solihull*, *Sutton*
Coldfield, *Salford Priors*
Ranatra linearis, Lin. *Knowle*, *Salford*
Priors (Blatch)

NOTONECTINA

- Notonecta glauca*, Lin. *Whitchurch*
 (Bloom); *Knowle*
 — *glauca* var. *maculata*, Fab. *Knowle*
 (Blatch)

CORIXINA

- Corixa geoffroyi*, Leach. *Whitchurch*
 (Bloom); *Meriden* (Blatch); *Knowle*
 — *lugubris*, Fieb. *Knowle* (Blatch)
 — *hieroglyphica*, Duf. *Knowle* (Blatch)
 — *sahlbergi*, Fieb. *Sutton Coldfield*, *Earls-*
wood (Blatch); *Knowle*
 — *striata*, Lin. *Sutton Coldfield*, *Earls-*
wood, *Knowle* (Blatch)
 — *fossarum*, Leach. *Knowle* (Blatch)
 — *fallenii*, Fieb. *Sutton Coldfield* (Blatch)
 — *fabricii*, Fieb. *Knowle*, *Earlswood*
 (Blatch)
 — *moesta*, Fieb. *Knowle*
Sigara minutissima, Lin. *Knowle* (Blatch)

SPIDERS

ARACHNIDA

Spiders, etc.

Scarcely any records of either spiders, harvestmen or false scorpions have been made for the county of Warwickshire. The following list is drawn up from a collection made by the Rev. J. Harvey Bloom at Whitchurch near Stratford-on-Avon.

ARANEÆ

ARACHNOMORPHÆ

DYSDERIDÆ

Spiders with six eyes and two pairs of stigmatic openings, situated close together on the genital rima; the anterior pair communicating with lung books, the posterior with tracheal tubes. Tarsal claws, two in *Dysdera*, three in *Harpactes* and *Segestria*.

1. *Dysdera cambridgii*, Thorell.

Stratford-on-Avon (J.H.B.)

2. *Dysdera crocata*, C. L. Koch.

Stratford-on-Avon (J.H.B.)

Not uncommon under stones and bark of trees, where it lurks within a tubular retreat. The spider is easily recognizable by its elongate form, orange legs, dark mahogany carapace and pale clay-yellow abdomen. The palpal bulb of the male has no cross-piece at the apex. The spider is also known as *D. erythryna*, Blackwall.

Larger than the last species, with a deep orange-pink carapace, orange legs, and abdomen with a delicate rosy-pink flush. The palpal bulb of the male has a cross-piece at the apex. This spider is also known as *D. rubicunda*, Blackwall.

DRASSIDÆ

3. *Prothesima nigrata* (Fabricius) Whitchurch (J.H.B.)

CLUBIONIDÆ

Spiders with eight eyes, situated in two transverse rows. The tracheal openings lie immediately in front of the spinners. The tarsal claws are two in number, but the anterior pair of spinners are set close together at the base; the maxillæ are convex and not impressed across the middle.

4. *Clubiona stagnatilis*, Kulczynski.

Stratford-on-Avon (J.H.B.)

7. *Clubiona phragmitis*, C. L. Koch.

Stratford-on-Avon, Warwick (J.H.B.)

5. *Clubiona terrestris*, Westring.

Stratford-on-Avon (J.H.B.)

8. *Clubiona diversa*, O.P.-Cambridge.

Whitchurch (J.H.B.)

6. *Clubiona pallidula* (Clerck)

Stratford-on-Avon, Warwick (J.H.B.)

ANYPHÆNIDÆ

The spiders of this family resemble those of the *Clubionidæ* in most respects, except that the tracheal stigmatic openings beneath the abdomen are situated about midway between the genital rima and the spinners, and not, as in the last family, immediately in front of the spinners. One species only is indigenous to Great Britain, and is very common amongst the foliage of trees in May and June.

9. *Anyphæna accentuata* (Walckenaer) Stratford-on-Avon (J.H.B.)

THOMISIDÆ

Spiders with eight eyes, situated in two transverse rows, two tarsal claws and anterior spinners close together at their base. Maxillæ not impressed. The crab-like shape and side-

A HISTORY OF WARWICKSHIRE

long movements of these spiders are their chief characteristics, enabling them to be easily distinguished from the more elongate *Drassidæ* and *Clubionidæ*.

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| 10. <i>Philodromus dispar</i> , Walckenaer.
Stratford-on-Avon (J.H.B.) | 13. <i>Xysticus ulmi</i> (Hahn)
Stratford-on-Avon (J.H.B.) |
| 11. <i>Philodromus aureolus</i> (Clerck)
Stratford-on-Avon (J.H.B.) | 14. <i>Xysticus lanio</i> , C. L. Koch.
Stratford-on-Avon (J.H.B.) |
| 12. <i>Xysticus cristatus</i> (Clerck)
Stratford-on-Avon (J.H.B.) | 15. <i>Xysticus erraticus</i> (Blackwall) |

ATTIDÆ

16. *Salticus cingulatus* (Panzer). Warwick (J.H.B.)

PISAURIDÆ

Spiders with eight eyes in three rows of 4, 2, 2; the small anterior eyes being sometimes in a straight line, sometimes recurved and sometimes procurved. Those of the other two rows are situated in the form of a rectangle of various proportions, and are much larger than the eyes of the anterior row. The tarsal claws are three in number. *Pisaura* runs freely over the herbage, carrying its egg-sac beneath the sternum; while *Dolomedes* is a dweller in marshes and swamps.

17. *Pisaura mirabilis* (Clerck)
Stratford-on-Avon (J.H.B.)
Known also as *Dolomedes*, or *Ocyale*, *mirabilis*.

LYCOSIDÆ

The members of this family are to be found running freely over the ground, and carrying the egg-sac attached to the spinners. Many of the larger species make a short burrow in the soil, and there keep guard over the egg-sac. Eyes and tarsal claws as in the *Pisauridæ*, with slight differences.

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| 18. <i>Lycosa ruficollis</i> (De Geer)
Stratford-on-Avon (J.H.B.)
Known also as <i>L. campestris</i> , Blackwall. | Known also as <i>L. rapax</i> , Blackwall, and <i>Tarentula pulverulenta</i> . |
| 19. <i>Lycosa terricola</i> , Thorell.
Stratford-on-Avon (J.H.B.)
Known also as <i>L. agretica</i> , Blackwall. | 22. <i>Pardosa lugubris</i> (Walckenaer)
Stratford-on-Avon (J.H.B.) |
| 20. <i>Lycosa accentuata</i> , Latreille.
Stratford-on-Avon (J.H.B.) | 23. <i>Pardosa pullata</i> (Clerck)
Stratford-on-Avon (J.H.B.)
Known also as <i>Lycosa obscura</i> , Blackwall. |
| 21. <i>Lycosa pulverulenta</i> (Clerck)
Stratford-on-Avon (J.H.B.) | 24. <i>Pardosa amentata</i> (Clerck)
Stratford-on-Avon (J.H.B.) |

AGELENIDÆ

Spiders with eight eyes, situated in two straight or more or less curved transverse rows. Tarsal claws, three. The species of this family spin a large sheet-like web, and construct a tubular retreat at the back of it, which leads to some crevice amongst the rocks or in the herbage, or in the chinks in the walls of outhouses and barns, wherever the various species may happen to be found. The habits of *Argyroneta*, the water spider, are however quite different. The posterior pair of spinners is much longer than the others in the more typical genera of this family.

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| 25. <i>Tegenaria derbami</i> (Scopoli)
Stratford-on-Avon (J.H.B.) | 26. <i>Agelena labyrinthica</i> (Clerck)
Stratford-on-Avon (J.H.B.) |
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SPIDERS

ARGIOPIDÆ

The spiders included in this family have eight eyes, situated in two rows, the lateral eyes of both rows being usually adjacent, if not in actual contact, while the central eyes form a quadrangle. The tarsal claws are three, often with other supernumerary claws. The web is either an orbicular snare, as in the case of the 'common garden spider,' or consists of a sheet of webbing, beneath which the spider hangs and captures its prey as it falls upon the sheet. This immense family includes those usually separated under the names *Epeiridæ* and *Linyphiidæ*.

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| 27. <i>Meta segmentata</i> (Clerck)
Stratford-on-Avon (J.H.B.)
Known also as <i>Epeira inclinata</i> , Blackwall. | 42. <i>Linyphia pusilla</i> , Sundevall.
Stratford-on-Avon (J.H.B.) |
| 28. <i>Meta merianæ</i> (Scopoli)
Whitchurch (J.H.B.) | 43. <i>Linyphia peltata</i> , Wid.
Whitchurch (J.H.B.) |
| 29. <i>Meta menardi</i> (Scopoli)
Warwick (J.H.B.) | 44. <i>Linyphia montana</i> (Clerck)
Whitchurch (J.H.B.) |
| 30. <i>Tetragnatha extensa</i> (Linnæus)
Stratford-on-Avon (J.H.B.) | 45. <i>Linyphia clathrata</i> , Sundevall.
Stratford-on-Avon (J.H.B.) |
| 31. <i>Tetragnatha solandri</i> (Scopoli)
Stratford-on-Avon (J.H.B.) | 46. <i>Lepthyphantes tenuis</i> (Blackwall)
Whitchurch (J.H.B.) |
| 32. <i>Pachygnatha clerckii</i> , Sundevall.
Stratford-on-Avon (J.H.B.) | 47. <i>Lepthyphantes obscurus</i> (Blackwall)
Whitchurch (J.H.B.) |
| 33. <i>Pachygnatha degeerii</i> , Sundevall.
Stratford-on-Avon (J.H.B.) | 48. <i>Lepthyphantes minutus</i> (Blackwall)
Whitchurch (J.H.B.) |
| 34. <i>Singa pygmæa</i> , Sundevall.
Stratford-on-Avon (J.H.B.) | 49. <i>Lepthyphantes leprosus</i> (Ohlert)
Stratford-on-Avon (J.H.B.) |
| 35. <i>Zilla × -notata</i> (Clerck)
Stratford-on-Avon (J.H.B.) | 50. <i>Bathypantes concolor</i> (Wider)
Warwick (J.H.B.) |
| 36. <i>Araneus cucurbitinus</i> , Clerck.
Stratford-on-Avon (J.H.B.) | 51. <i>Bathypantes dorsalis</i> (Wider)
Stratford-on-Avon (J.H.B.) |
| 37. <i>Araneus patagiatus</i> , Clerck.
Stratford-on-Avon (J.H.B.) | 52. <i>Centromerus bicolor</i> (Blackwall)
Whitchurch (J.H.B.) |
| 38. <i>Araneus marmoreus</i> , Clerck.
Stratford-on-Avon (J.H.B.) | 53. <i>Gongylidium rufipes</i> (Sundevall)
Stratford-on-Avon (J.H.B.) |
| 39. <i>Araneus umbraticus</i> , Clerck.
Stratford-on-Avon (J.H.B.) | 54. <i>Gongylidium graminicolum</i> (Sundevall)
Warwick (J.H.B.)
Known also as <i>Neriene munda</i> , Blackwall. |
| 40. <i>Araneus triguttatus</i> , Fabricius.
Stratford-on-Avon (J.H.B.)
Known also as <i>Epeira agalena</i> , Blackwall. | 55. <i>Trachygnatha dentata</i> (Wider)
Whitchurch (J.H.B.) |
| 41. <i>Linyphia triangularis</i> (Clerck)
Stratford-on-Avon (J.H.B.) | 56. <i>Neriene rubens</i> , Blackwall.
Stratford-on-Avon (J.H.B.) |

THERIDIIDÆ

The members of this family have eight eyes, situated very much like those of the *Argiopidæ*; but the mandibles are usually weak, the maxillæ are inclined over the labium, and the posterior legs have a comb of stiff curved spines beneath the tarsi. The web consists of a tangle of crossing lines, and the spider often constructs a tent-like retreat wherein the egg-sac is hung up. The tarsal claws are three in number.

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| 57. <i>Theridion sisypium</i> (Clerck)
Whitchurch near Stratford-on-Avon (J.H.B.)
Known also as <i>T. nervosum</i> , Blackwall. | 58. <i>Theridion varians</i> , Blackwall.
Warwick (J.H.B.) |
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A HISTORY OF WARWICKSHIRE

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| <p>59. <i>Theridion bimaculatum</i> (Linnæus)
Stratford-on-Avon (J.H.B.)
Known also as <i>T. carolinum</i>, Blackwall.</p> <p>60. <i>Theridion pulchellum</i>, Walckenaer.
Warwick (J.H.B.)</p> | <p>61. <i>Theridion lineatum</i> (Clerck)
Warwick (J.H.B.)</p> <p>62. <i>Theridion tepidariorum</i>, C. L. Koch.
Whitchurch (J.H.B.)</p> |
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DICTYNIDÆ

The spiders belonging to this family possess three tarsal claws, and the eyes, eight in number, situated in two transverse rows, the laterals being in contact. The cribellum (or extra pair of spinning organs) and the calamistrum (a row of curving bristles on the protarsi of the fourth pair of legs) are present in all members of the family. They construct a tubular retreat with an outer sheet of webbing, which is covered with a flocculent silk made with the calamistrum from threads furnished by the cribellum.

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| <p>63. <i>Amaurobius fenestralis</i> (Stroem)
Stratford-on-Avon (J.H.B.)</p> <p>64. <i>Amaurobius ferox</i> (Walckenaer)
Whitchurch (J.H.B.)</p> <p>65. <i>Amaurobius similis</i> (Blackwall)
Whitchurch (J.H.B.)</p> | <p>66. <i>Dictyna arundinacea</i> (Linnæus)
Stratford-on-Avon (J.H.B.)
Known also as <i>Ergatis benigna</i>, Blackwall.</p> <p>67. <i>Dictyna uncinata</i>, Westr.
Warwick (J.H.B.)</p> |
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CHERNETES

68. *Cthonius rayi*, L. Koch.
Loxley (J.H.B.)

OPILIONES

The harvestmen are spider-like creatures with eight long legs, the tarsi very long and flexible. Eyes simple, two in number, situated on each side of an eye eminence. Body not divided into two distinct regions by a narrow pedicle, as in spiders; abdomen segmentate.

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| <p>69. <i>Platybunus corniger</i>, Hermann.
Stratford-on-Avon (J.H.B.)</p> <p>70. <i>Nemastoma lugubre</i> (O. F. Müller)
Whitchurch (J.H.B.)</p> | <p>71. <i>Phalangium opilio</i>, Linn.
Whitchurch (J.H.B.)</p> |
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CRUSTACEANS

From a dry county like Warwickshire one might not expect a great abundance of animals so aquatically disposed and so essentially moisture loving as the crustacea. How small in fact any such expectation has been down to quite recent times is pointedly illustrated by a volume of much merit and usefulness. For the meeting of the British Association in 1886 a *Handbook of Birmingham* was prepared, embracing a wide range of subjects. The section devoted to zoology occupies in it satisfactory space and prominence. A valuable page of this section is devoted to crustaceans, but the writer of it has to explain how they creep into this little corner of the field. They win their chance of notice it appears not because they are members of an important independent class of the animal kingdom, but as a subordinate branch of the district's microscopic fauna. It is however a mistake to suppose that the carcinology of a county is wholly dependent for its interest on an extensive seaboard, or the presence of large lakes and broad rivers. Some crustaceans have in the course of ages, if theory may be trusted, forsaken that watery world in which alone their distant ancestors could breathe, and, whether theory can be trusted or not, as a matter of fact their existing generations live on land. Others there are among the fresh-water species as modest in their views as Cincinnatus, who preferred his little farm to a dictator's palace. They actually like a rivulet better than a river, and disdainful of spreading lakes make it a point of honour to swarm in small and shallow ponds. There are moreover a very great number which, though incapable of active life on land, can in the embryonic stage wait for water with admirable patience, choosing to be born only when there is liquid for them to live in.

For the crustaceans of an inland county it is sufficient to distinguish two out of the three principal sections of the class, the Malacostraca and Entomostraca. All the crabs, lobsters, shrimps and other forms belonging to the former group are linked together by a community of structure much closer than at the first glance would be imagined. Leaving out of count the foremost piece to which the eyes belong and the hindmost piece called the telson, there are in the malacostracan body nineteen segments, and each segment has a pair of appendages assignable to it. That appendages are often missing, that segments coalesce, making two or more look like one, must be admitted. But the general statement is based on very substantial evidence. The appendages, for example, that are missing in one sex will be found in the other, or if

A HISTORY OF WARWICKSHIRE

wanting in this or that family or genus will make their appearance in another that is nearly related. The same applies to the coalescence of segments. In the tail of a crab, for instance, that of the male will often show only five segments, while that of the female has the normal seven, the explanation being that in the male three are obviously consolidated into one. Frequently lines, grooves, sutures, partial divisions, testify to the intrinsic distinctness of these united portions. In the Entomostraca on the other hand there are always more or fewer than this number of nineteen segments and nineteen pairs of appendages.

In the *Handbook of Birmingham* Mr. Thomas Bolton, F.R.M.S., speaking of the Malacostraca says: 'In this class [Crustacea] should be mentioned the freshwater crayfish, *Astacus fluviatilis*, not of course a microscopic organism; but if it were omitted here it could not appear in any of the other reports. This species is fairly distributed in most of the smaller brooks, in the canals and larger reservoirs, but it is not so abundant or so large as it is on the lime formations round Oxford. Two other large microscopic species of this class, the freshwater shrimp, *Gammarus pulex*, and the water woodlouse, *Asellus vulgaris*, are always present, the former busy in its office of scavenger in the sandy bottoms of the brooks and ditches, and the latter climbing about, like a monkey, amongst the water weeds, investigating the mass of living and decaying organisms with which the weeds are clothed.'

Of the Macrura or long-tailed Malacostraca the only species likely to be found living in Warwickshire was the above-mentioned river crayfish, and this was not likely to be absent. The technical designation of it should rather be *Potamobius pallipes* (Lereboullet), the name *Astacus* in strictness belonging to the somewhat similar but really distinct genus of the marine lobster. There is no evidence that we have in England more than one species, or even more than one variety of the river crayfish. A difference in size, however constant as between the specimens from two localities, could not be considered of any significance in this respect, since the smaller form might become larger if transferred to a district where there was a better food supply and where the constituents of its crustaceous coat were more abundant, while the larger breed might degenerate under the influence of an opposite removal. The two other malacostracan species which Mr. Bolton records are almost certainly present in every one of our English counties. *Gammarus pulex* (Linn.) has very near relations in the sea and on the seashore, but is itself a widely distributed exclusively freshwater representative of the Amphipoda. The species of this great order are at once distinguished from crabs and crayfishes by being sessile-eyed. They have their eyes firmly seated in the head. They cannot shift them from side to side or up and down as we can ours, nor yet can they lift and lower them or move them to and fro on jointed pedicels after the fashion which gives to many of the stalk-eyed crustaceans a wonderful look of alertness and

¹ *Handbook of Birmingham*, p. 306. I am indebted to Professor W. W. Watts for calling my attention to this source of information.

CRUSTACEANS

cunning. It is therefore only with some reserve that *G. pulex* can be called 'the freshwater shrimp.' Shrimps, in the more familiar acceptance of the term, are all stalk-eyed. Furthermore our common shrimp and common prawn are phyllobranchiate, that is to say they have under the carapace a series of breathing organs composed of two rows of branchial leaflets. On the other hand in the Amphipoda the branchiæ or gills are not under the carapace, and are as a rule undivided, each consisting of a single vesicle. There are true freshwater shrimps and prawns of the same general character as the marine species to be found in many places, though they do not happen to occur in Warwickshire. Hence Amphipoda are spoken of as shrimps only because popular neglect in the past has left them without any suitable vernacular appellation. Apart from the want of pedunculate eyes however they have as many jointed appendages as the ordinary eatable shrimp. The head as usual carries two pairs of antennæ. These are followed by four pairs of jaws, known as mandibles, first and second maxillæ and maxillipeds. With these the carapace or cephalothorax comes to an end, and is succeeded by the middle body made up of seven separate segments carrying seven pairs of legs, after which comes the normally jointed pleon with its six pairs of appendages that have various functions of swimming, springing or promoting a circulation of the surrounding water. In a shrimp or lobster, on the other hand, the carapace includes both head and middle body, carrying the two pairs of antennæ and six pairs of jaws instead of four, but only five pairs of legs instead of seven, the pleon both here and elsewhere remaining uncovered. Among all the more or less striking differences however, the total number of appendages between the eyes and the pleon it will be seen is precisely the same in the decapod or ten-footed macruran and in the tetradeapod or fourteen-footed amphipod. Not only is the number the same, but the appendages themselves are evidently equivalent, homologous, pair for pair, though in the case of some of them science has been pleased to vary their names and nature has been pleased to vary their functions.

Upon 'the water woodlouse, *Asellus vulgaris*,' somewhat similar observations may be made. The name to be preferred for it, as older than Latreille's *A. vulgaris*, is *A. aquaticus* (Linn.), and for this Latin term 'water woodlouse' would be as fair an English equivalent as could be given. In our inland counties it might even deserve to be distinguished as *the* water woodlouse, because in those counties the order Isópoda to which it belongs has no other freshwater representative. Nevertheless the title woodlouse is not well fitted to animals that live only in the water, and besides it belongs by right to a large terrestrial subdivision of the order. The Isopoda are sessile-eyed malacostracans like the Amphipoda, and have almost the same arrangement of appendages. They also have the middle body uncovered by the carapace. Still between the two orders the differences are many and important. In the genuine isopods the heart is in the hinder half of the trunk instead of being as in the amphipods in its front half, and in place of

A HISTORY OF WARWICKSHIRE

gills attached to the trunk-legs several appendages of the pleon supply the respiratory organs. Amphipods are usually, though not always, laterally compressed. This puts them at a disadvantage for walking in the open air. But isopods, being almost always dorso-ventrally depressed or flattened downwards, have a more steadfast equilibrium, such as is well exemplified in *A. aquaticus*. The brown colour marbled with white, the long antennæ in front, and the slender two-branched uropods or tail-feet prominently projecting from the consolidated pleon behind, make this exceedingly common species easy to recognize. It is fully and beautifully illustrated in an early work¹ by the distinguished Norwegian carcinologist, Professor G. O. Sars, and more concisely in his recent description of the Isopoda of Norway.²

Of the Isopoda terrestria, or woodlice proper, if so unscientific a term can be called proper, Warwickshire might be thought to be wholly destitute, to judge by the silence of its zoological records. It is however quite certain that in this county as in others *Oniscus asellus*, *Porcellio scaber*, *Philoscia muscorum*, *Armadillidium vulgare* and various other species are to be found, in gardens and woods, in dry ditches by the roadside, and almost anywhere under loose flat stones, amidst decaying leaves and rubbish, or wherever their necessary food and shelter and a modicum of moisture can be obtained. In the case of *A. vulgare* and a few other species that stable equilibrium with which nature has provided an isopod can be sacrificed at will, the creature being able to 'conglobate' its body and roll out of reach of its enemies sometimes in a manner very unexpected.

Of the Entomostraca Mr. Bolton writes as follows :³ 'The members of this sub-class are also to be found everywhere, but it is desirable to call special attention to the discovery for the first time in Great Britain of the wonderfully transparent *Leptodora hyalina*, at a visit of the Birmingham Natural History and Microscopical Society in 1879 to the Olton reservoir near Solihull. It has since been found in many localities, and is very abundant in the summer and autumn in the Warwick Canal and several reservoirs. *Hyalodaphnia kahlbergensis* is very generally found with it. *Argulus coregoni* is found in the Birmingham and Warwick Canal. It had only been discovered in Great Britain previously in the tanks of the Royal Aquarium at Westminster, which of course are not used for British fish exclusively. The fairy shrimp, *Chirocephalus diaphanus*, is found in only one locality in the district, near Knowle. A few specimens of the very rare *Lynceus acanthocercoides* were found near Bewdley, and amongst other local finds may be mentioned *Moina rectirostris*, *Macrothrix roseus* and *Ilyocryptus sordidus*.'

To make clear the relations one to another of these and several other Warwickshire species it will be expedient to give in brief an outline of the classification now generally adopted for the Entomostraca.

¹ *Histoire Naturelle des Crustacés d'eau douce de Norvège*, p. 93, pls. 8-10 (1867).

² *Crustacea of Norway*, ii. 97, pl. 39 (1899).

³ *Handbook of Birmingham*, p. 306.

CRUSTACEANS

They are parcelled out into three great companies, the Branchiopoda, with branchial feet, the Ostracoda, shell-invested, which have the body completely enclosed in a pair of valves like peas in a peascod, and the Copépoda, oar-footed, which are not enclosed in valves and the feet of which are not branchial.

The Branchiopoda are again subdivided into three important sections: the Phyllopoda, leaf-footed; the Cladocera, with branching antennæ; the Branchiura, with a name signifying that the tail is branchial. Each of these sections is represented in Mr. Bolton's list of species above quoted, although the first and third have only a single species apiece. *Chirocephalus diaphanus*, Prevost, belongs indeed to a subsection of the Phyllopoda which has at present no other known representative throughout England. The fairy shrimp is one of those crustaceans of which the coat is not crustaceous. Moreover it has neither enclosing valves nor extended carapace. The movements of its flexible but ill-protected body are graceful rather than rapid. Probably it is shielded from harm partly by a happy knack of lodging in unexpected places and partly by the discreet blending which nature has established between the tints of its pellucid structure and those of its environment. Its eggs, in common with those of many other Entomostraca, enjoy the wonderful power of resting in dry ground till an accession of water summons them to development. Thus after a downpour of rain this beautiful species has been known to make its appearance in such an unromantic situation as a hoof mark or a cart rut. It has long been regarded as rare, but records are accumulating which may prove it to be far from uncommon.

The third section is a very small one, and its position has not always been among the Branchiopoda. Earlier authors placed its members among the parasitic Copepoda, to some of which they show a not inconsiderable resemblance. This, however, may be due in great measure to similarity of habit, for all the Branchiura are parasitic on fishes or frogs, and it is some of the fish parasites among the Copepoda that they most resemble. The representative species long known in England is called *Argulus foliaceus* (Linn.), which may be presumed to occur in Warwickshire, whether specially recorded or not. The *A. coregoni*, Thorell, to which Mr. Bolton refers, is parasitic chiefly, though not exclusively, on Salmonidæ. In this the great shield covers all the four pairs of swimming feet, whereas in *A. foliaceus* the fourth pair is left exposed. Both alike have a pair of large lateral eyes and a small trilobed median eye. In this genus the large sucking disks into which the maxillæ at a certain stage of development are metamorphosed betray the parasitic character of the animals. Yet they can exist for days, or even weeks, apart from their hosts. For leading a life of independent activity they have first to be well gorged, and to this end, it has been observed, nature has provided them with ramified cœcal appendages in the gastric department. Dr. Baird has quoted Jurine's observation that fishes seemed to be afraid of these little vampires, and would speedily reject them if accidentally swallowed. This may be true in general, but the late Professor

A HISTORY OF WARWICKSHIRE

Claus maintains that at least the little bleak and the minnow are as ready to feed on the Argulus as the Argulus is to feed on them. Claus is willing to retain the term Branchiura for this group, although objecting that the tail is not in fact more branchial than some other parts of the body. It is, indeed, he says, the seat of an extraordinarily rich and lively blood circulation, and by its muscular arrangement is adapted for rhythmical contractions and expansions, so that its function is that of an auxiliary heart.¹

In contrast with the foregoing very limited set of forms, the Cladocera, which constitute the remaining section of the Branchiopoda, are a group of remarkable extent and importance in the fresh waters of the world. Though in almost all species the individuals are small, and in many descend to microscopic minuteness, they make amends for this by their prodigious fertility. Like the aphides that infest our roses and other plants, these entomostracans multiply by parthenogenesis. Milton represents Adam as lamenting that the Creator did not 'fill the world at once with men, as angels, without feminine.' Parthenogenesis is a device for filling it 'without masculine,' and setting up a republic of amazons. Nevertheless there come periods when it seems to be borne in upon the minds of these self-sufficient females that nature is not completely satisfied with their procedure. They then form what are known as the 'resting eggs,' which require to be fertilized by the male before they are detached from the mother. They are then capable of 'resting' for long periods in mud, which may become thoroughly dry. When at a suitable season water comes again to the soil the buried entomostracans hatch out and a new cycle begins.

In 1895 Mr. T. V. Hodgson, now engaged as naturalist on board the antarctic exploring vessel, the *Discovery*, published a 'Synopsis of the British Cladocera.' To this he appended a list containing all those species which had up to that time been recorded from the neighbourhood of Birmingham, 'a region which may be defined as being within a fifteen mile radius.'² Mr. Hodgson has since informed me that as a matter of fact all the species mentioned in the list have occurred in Warwickshire. The question was raised, because localities are not in every case specified, and a fifteen mile radius round Birmingham includes a district obviously not conterminous with the county. The catalogue comprises twenty-nine species and two varieties. Although these are far less than half the number of British Cladocera now known, they involve almost all the chief outlines of the existing classification.

In the same year (1895) Dr. Jules Richard began his excellent *Révision des Cladocères* with the following definition of this group: 'Entomostraca free, minute. Head distinct. Rest of the body as a rule laterally compressed and covered by a bivalved test. Second antennæ

¹ *Zeitschrift für wissenschaftliche Zoologie*, xxv. 269 (1875).

² *Journal of the Birmingham Natural History and Philosophical Society*, vol. i. No. 19, pp. 101-112 (February, 1895). It will be understood that subsequent quotations, where not otherwise indicated, refer to this paper.

CRUSTACEANS

two-branched, each branch setiferous, consisting of only 2-4 joints. Mandibles quite devoid of palp. Pairs of feet 4-6, of which for the most part the majority or all are foliaceous, lobed. The eye single.¹

Freedom is a word of many meanings. Minuteness is a matter of comparison. The objects of the above definition are free in contrast to many entomostracans which are parasitically attached to other organisms. In size they range, with a few exceptions, between about one-fifth and one-hundredth of an inch, so that there are some living creatures indefinitely smaller than the smallest of them. The distinctness of the head is noted to contrast them with the Ostracoda, which have the head as well as the rest of the body enclosed in a bivalved test or shell covering. Their lateral compression is a character not uncommon, but in the Branchiura, in many Phyllopoda and in the Copepoda as a rule the compression is dorso-ventral, from above downwards. The branching second antennæ are so characteristic that the name of the whole section alludes to this feature, and though the joints in each branch are so few, the varying numbers admit of many combinations useful in distinguishing genera. In the absence of a palp from the mandibles nature here speaks with unwonted decision. Elsewhere we find crustacean groups in which some members have this palp and others are without it. Such a difference between nearly related genera or species seems very capricious, as though it were introduced just to try the temper of systematists. The mandible may be regarded as an appendage originally similar to the many-jointed limbs. Its basal part became enlarged and fortified for purposes of mastication, and the slender terminal joints, now spoken of as 'the palp,' have in some cases entirely disappeared, in others been partially retained. This may be explained, in the terms of modern science, as an example of the continual struggle between heredity on the one hand and adaptation to circumstances on the other.

The Cladocera are divided into two principal companies: the Calyp-toméra, a name implying that the limbs are covered by a well developed carapace; and the Gymnoméra, or bare shanks, in which the carapace is small and does not encompass the trunk limbs. Each company is subdivided into two tribes.

The first tribe of the Calyptomera takes its descriptive name, Ctenópoda, or comb-feet, from the fact that all its six pairs of foliaceous legs are furnished with setæ arranged like the teeth of a comb. One of its families, the Sididæ, contains two genera recorded for this county—*Sida*, Straus, and *Diaphanosóma*, Fischer. In the former the dorsal, outer, or upper branch of the second antennæ has three joints, and the ventral, inner, or lower branch only two; while the reverse is the case in the latter genus. The species *Sida crystallina* (O. F. Müller) is stated by Mr. Hodgson to be 'abundant in clear weedy pools and canals.' It has on the back of its head an apparatus by which it can affix itself to one or other of the aquatic plants among which it dwells. It is also distinguished by having the dorsal margin of its post-abdomen fringed with

¹ *Annales des Sciences Naturelles*, ser. 7, xviii. 304 (1895).

A HISTORY OF WARWICKSHIRE

a series of twenty or more simple or isolated denticles. *Diaphanosoma brachyurum* (Liévin) has a very different appearance, owing to the enormous size of its second antennæ. In Mr. Hodgson's list it appears as *Daphnella brachyura*, Liévin, but the name *Daphnella* being preoccupied has had to be relinquished; and possibly our British species ought to be known as *Diaphanosoma wingii* (Baird), a question of names that might prove extremely profitable to lawyers if a title and estates depended on the decision.

The second tribe is called Anomópoda, to signify that the feet are not all alike, the two front pairs being, in contrast to those of the Ctenopoda, more or less prehensile, not foliaceous. This tribe, which comprises most of the Cladocera, is divided into four families—Daphniidæ, Bosminidæ, Macrotrichidæ and Chydoridæ—each taking its name from the eldest of the genera it contains. In the first three of these families the second antennæ have the dorsal branch four-jointed, the ventral three-jointed; but in the fourth family both branches are three-jointed. In the first family the intestinal canal has in front two cæcal appendages, but forms no loop; in the second, it has neither loop nor cæca; in the third, it is variable, being generally without the cæca, and sometimes straight, sometimes convoluted; in the fourth, it forms almost a double convolution. Not in every kind of animal, nor yet in every kind of crustacean, does the shape of the intestine offer an easy guide towards the distinction of families. But with most of the Cladocera the chitinous envelope is so pellucid, sometimes of such a glassy transparence, that the course of the alimentary tract can be perfectly perceived from the outside, without any necessity for killing and dissecting the specimen.

In the Daphniidæ Mr. Hodgson records *Daphnia pulex*, de Geer, 'abundant in dirty water'; *D. longispina*, Müller, 'abundant in clear water, canals'; *D. lacustris*, var. *galeata*, G. O. Sars, 'common: Olton, Whitacre, Sutton'; *D. jardinii*, Baird, 'common: Olton, Whitacre, Sutton'; with var. *kahlbergensis*, Schödler, 'Olton,' and var. *cederstromii*, Schödler, 'Blackroot, Sutton.' In regard to the first of these species, Dr. G. S. Brady, F.R.S., in a paper 'On the British species of Entomostraca belonging to *Daphnia* and other allied genera,' under the heading, 'var. *brevispina* (Daday de Dees),' writes as follows: 'Mr. D. J. Scourfield has sent to me specimens taken in the neighbourhood of Birmingham, which are different in some respects from the ordinary form of *D. pulex*, and I think are the same as those described by Daday de Dees under the specific name *brevispina*. They do not however appear to me to require more than a varietal name. The spine is rather longer than that which I look upon as belonging to the typical *D. pulex*, and the principal abdominal processes are short, curved, nearly equal in length and divergent, the whole animal of a deep brown colour.'¹ *Daphnia longispina* is a small species, taking its name from the great length of the spine at the extremity of its test. It labours under two disadvantages. No one is quite sure what species O. F. Müller was really

¹ *Nat. Hist. Trans. Northumberland, etc.* vol. xiii. pt. 2, p. 223 (1898).

CRUSTACEANS

describing under this specific name, and that which is now allowed to carry the title is so variable that not only have many nominal species been carved out of it and then discarded, but it is almost impossible by words to fix its characters. They change with the individual, with the locality, with the season, with the conditions of nourishment, with the sizes and ages even of ovigerous adults.¹ *D. jardinii*, Baird, is now usually transferred to the genus *Hyalodaphnia*, Schödler, distinguished from *Daphnia* by the want of an eye-spot. Brady, in 1898, perhaps overlooking Mr. Hodgson's record, declares that the only British locality in which *H. jardinii* has hitherto been found is Lochmaben, Dumfriesshire.² On the other hand he accepts *H. kahlbergensis* [kahlbergiensis],³ Schödler, as an independent species. In the same way he does not hold *galeata* to be a variety of *D. lacustris*, but describes it as *D. galeata*, Sars; and further on he says, 'The characters, which may be taken as separating *D. kahlbergensis* from *D. galeata*, are the large size of the head, its wedge-shaped outline, broad at the base or posterior end and gradually tapering to an acute apex, and the absence of an eye-spot: the vertex-spine, which in *D. galeata* has a ventral bend, is here either straight or slightly bent towards the dorsum.'⁴ Under *D. galeata* he had already observed that 'in other respects a description of the one form may very well be applied to both.'⁵ In 1879 Mr. H. E. Forrest described and figured '*D. Bairdii*' from Olton reservoir. He says, 'The appearance of *D. Bairdii* in the microscope is irresistibly comic. It has an immense head, which terminates upwards in a sharp point, exactly as if it were wearing a dunce's cap, and in this its one goggle eye rolls about with an air of supernatural wisdom. The body is transparent and almost colourless.'⁶ Subsequently Mr. Forrest explains that his *D. Bairdii* had been previously found near Berlin, and described by Schödler as *Hyalodaphnia kahlbergensis*, but he maintains that its name ought to be *Daphnia kahlbergensis*, and in addition to Olton Reservoir gives as localities for it Edgbaston Pool and Spurrier's Pool.⁷ Sars however in 1890 makes it a variety of *Hyalodaphnia jardinii* (Baird), grouping together several so-called species, and explaining that 'the spring generations of this species usually have the head quite evenly rounded, without a hint of the more or less strongly outdrawn hood-shaped extension which characterizes summer generations, and therefore exhibit a very different physiognomy, so much the more as also the eye seems considerably larger.'⁸ There remains to be considered the var. *cederströmii*. For the species described by Schödler as *H. cederströmii* Dr. Jules Richard adopts the designation '*H. cristata*, Sars; var. *cederströmii*, Schödler,' stating that the variety is scarcely distinguished except by the extraordinary development and the form of the

¹ Richard, *Ann. Sci. Nat.*, ser. 8, ii. 277 (1896); and Lilljeborg, *Gladocera Sueciæ*, p. 95 (1900).

² *Nat. Hist. Trans. Northumberland, etc.* vol. xiii. pt. 2, p. 238.

³ The name as given by Schödler is *kahlbergiensis*, although, as will be seen, it is repeatedly quoted as *kahlbergensis*.

⁴ Loc. cit. p. 239.

⁵ Loc. cit. p. 235.

⁶ *Midland Naturalist*, ii. 217, pl. 14 (1879).

⁷ Loc. cit. p. 284.

⁸ *Översigt af Norges Crustaceer, in Christiania Vid.-Selsk. Forhandlinger*, No. 1, p. 34.

A HISTORY OF WARWICKSHIRE

cephalic crest. 'The head, in fact, presents the form of a hood more or less curved in a dorsal direction, laterally flattened. Thus the ventral margin forms a regularly convex line, while the dorsal margin is concave. The head attains half the length of the body (not including the caudal spine, which is almost as long as the head).' He does not accept any English locality for it, but believes the form commonly noted under the name *cederströmii* to be a variety of *H. jardinii*, for which he proposes the name *incerta* on account of the uncertainties arising from its confusion with the true *cederströmii*.¹

The upshot of all these explanations is to credit Warwickshire with *Daphnia pulex*, var. *brevispina*, Daday de Dees; *D. longispina*, O. F. Müller; *D. galeata*, Sars; *Hyalodaphnia jardinii*, var. *incerta*, Richard; and *H. kablbergiensis*, Schödler. According to Lilljeborg, in his important work just issued, the last of these should be called *Daphnia* (*Hyalodaphnia*) *cucullata*, Sars.² It is indeed only in Utopia that the student can expect to rest and be thankful over a final settlement of zoological names.

Belonging to the same family of the Daphniidæ Mr. Hodgson records *Simocephalus vetulus* (O. F. Müller), 'abundant in clear weedy water, canals'; *Scapholeberis mucronata* (O. F. M.), 'common: Olton, Kingswood, Middleton, Hagley Park'; *Ceriodaphnia reticulata* (Jurine), 'Middleton, Olton'; *C. rotunda* (Straus), 'generally distributed'; *C. quadrangula* (O. F. M.), 'Barnt Green, Middleton'; *C. megalops*, Sars, 'Lower Bittel Reservoir, Olton Mill'; and *Moina rectirostris* (O. F. M.), 'a horsepond near Harborne.' All these genera were at one time included under *Daphnia*, and the first three of them still were so in 1850 when the Ray Society published Dr. Baird's valuable book on *The Natural History of the British Entomostraca*. In that volume Baird distinguished *Moina*, which has the first antennæ of the female long and inserted on each side of the head's ventral margin, from the other Daphniidæ, in which these antennæ are small and inserted under the rostrum or on the head's hind margin. *Simocephalus*, Schödler, has its shell covering marked with sub-parallel transverse lines, whereas in *Daphnia* and others there is a reticulation of little quadrate or polygonal meshes. In *Ceriodaphnia*, Dana, the first antennæ of the female are movable, while in *Daphnia* and *Hyalodaphnia* they are immovable, and from these three *Scapholeberis*, Schödler, is differentiated by having the ventral margin almost straight in continuity with the caudal spine, and by having a distinct hind margin. In the others the convex ventral and dorsal margins meet at the caudal spine, so that the hind margin remains undefined as in the bow of a boat.

In the family Bosminidæ the records are *Bosmina longirostris* (O. F. Müller) and *B. longispina*, Leydig, of which the former is said to have the 'head erect, not tumid above,' the latter to have the 'head depressed, tumid above.' It may be worth while here to notice that in describing

¹ *Ann. Sci. Nat.* ser. 8, ii. 331, 343 (1896).

² *Gladocera Sueciæ*, p. 127.

CRUSTACEANS

the second antennæ, Mr. Hodgson in his Synopsis speaks of the dorsal or external branch as the posterior, the ventral or inner as the anterior, while Dr. Baird does just the reverse. Specimens of Cladocera are usually figured with the head uppermost. When the antennæ are erected the ventral branch faces forward, when they are depressed the dorsal one occupies this position. It is therefore inconvenient to distinguish them by terms which have no fixity of application. Professor Lilljeborg distinguishes *B. longirostris* as having the spines of the caudal unguis in the female divided into two series, while in the other species of the genus the series is single.

In the family Macrotrichidæ Warwickshire lays claim to *Ilyocryptus sordidus*, Liévin, and *Drepanothrix dentata*, Eurén. Already in 1881, Mr. H. E. Forrest, F.R.M.S., had recorded the former as obtained 'probably from a small pond in Sutton Park near Birmingham.'¹ Mr. Hodgson gives its distribution as 'common: Kingswood, Olton Canal, Sutton.' The generic name alludes to its habit of hiding in the mud, and the specific name enforces the moral that mudlarks will still be muddy. The terminal claws in this genus are very long and the intestine straight, subapically dilated, whereas in *Drepanothrix* the terminal claws are small and the intestine forms a large loop. The name of the latter genus signifies sickle-haired or sabre-haired, and alludes to a rather minute character. In the second antennæ the inner branch has on its first joint a long seta or hair, which is slightly curved like a sabre, and without any articulation in the middle such as is found in the seta of the second joint. In framing generic characters for the Cladocera a census has been taken of the hairs on the second antennæ. Hence unwonted attention has been drawn to parts that might otherwise be thought rather insignificant. The specific name *dentata* alludes to the dorsal tooth or stout spine on the subcircular carapace.

Of the fourth family, often called Lynceidæ but more correctly Chydoridæ, there are ten species assigned to Warwickshire: *Chydorus sphaericus* (O. F. M.), 'abundant, clear water'; *C. globosus*, Baird, 'not uncommon'; *Eurycercus lamellatus* (O. F. M.), 'abundant in clear weedy pools and canals'; *Acróperus harpa* [*harpæ*], Baird, 'generally distributed, clear water'; '*Lynceus quadrangularis*, canal, Olton'; *Graptolebérus testudinaria*, Fischer, 'Olton Reservoir'; *Alonella nana* (Baird), 'common: Kingswood, Olton, Barnt Green'; *Peracantha truncata* (O. F. M.), 'canal, Olton; Alvechurch'; *Pleuroxus trigonellus* (O. F. M.), 'Alvechurch'; *P. uncinatus*, Baird, 'canal, Olton; Windley Pool, Sutton.'

In regard to *Lynceus quadrangularis*, O. F. M., it needs to be explained that the genus *Lynceus* was established by O. F. Müller, one of the chief pioneers in entomostracan science. But, as so often happens when new paths are opened up in zoology, this early genus was far too comprehensive for subsequent requirements. It had to be much restricted, and is now properly confined to the Phyllopoda. The Cladocera once included in it are distributed under various other generic

¹ *Midland Naturalist*, iv. 1. pl. 1.

A HISTORY OF WARWICKSHIRE

names. In particular the species *L. quadrangularis* was transferred in 1843 by Dr. Baird to a new genus, *Alona*. Baird indulged in the inconsistency of retaining the family Lynceidæ, although he left in it no genus *Lynceus*. Mr. Hodgson and some other authorities have avoided this fault by retaining the genus *Lynceus* in place of *Alona*. But *Lynceus* cannot be in two places at once. Being a phyllopod, it cannot likewise be a cladoceran. For several of the genera in this family Baird notices something distinctive in the external form. Thus, *Chydorus*, Leach, is 'nearly spherical in shape'; *Acroperus*, Baird, 'somewhat harp-shaped'; *Alona*, 'quadrangular'; *Eurycercus*, Baird, 'sub-quadrangular'; *Campotocerus*, Baird, and *Peracantha*, Baird, respectively 'ovoid' and 'oval'; while *Pleuroxus*, Baird, has the lower part of the ventral margin 'truncated, or, as it were, cut sharp and straight.' He contrasts the motion through the water of *Alona quadrangularis* with that of the Daphniidæ, for 'instead of swimming by short irregular bounds, as these latter do, they direct themselves by a rapid motion of their inferior antennæ, or rami, and legs, straight towards the point to which they wish to go.'¹ He considers that this probably depends on the shortness of the branches of the second antennæ, since among the species of another family *Bosmina longirostris*, which also has very short branches similarly situated, has the same kind of motion. As in the Daphniidæ, so in the Chydoridæ, the eye, Baird observes, 'is a spherical body contained in a somewhat funnel-shaped sheath of muscles, having a semi-rotatory motion, and consisting of a series of crystalline bodies, which, in the *Eurycercus lamellatus*, are about twenty in number.'² In *Eurycercus* Dr. Jules Richard notes that the optic ganglia and their nerves are clearly separated one from the other, though all the same the eye remains single,³ thus strengthening the recognized probability that the single eye of the Cladocera has arisen from the fusion of eyes originally paired.

Passing on to the Gymnomera, we find this section likewise divided into two tribes, the Onychópoda with four pairs of feet, nail-bearing feet as the name implies, and the Haplópoda, with six pairs of feet, these being in accord with the name simple, unarmed. The so-called nails of the Onychopoda are supplied by unguiform setæ. In this tribe the family Polyphemidæ supplies Warwickshire with the interesting species *Polyphemus pediculus*, de Geer. Mr. Hodgson describes its distribution as 'local: Olton Mill Pool; Blackroot, Sutton.' In the second tribe the family Leptodoridæ supplies *Leptódora byalina*, Lilljeborg, 'abundant, canals and some large pools.' This species was recorded in 1879 from 'a pool in the neighbourhood of Olton'⁴ by Mr. Walter Graham, F.R.M.S., President of the Birmingham Natural History and Microscopical Society, his identification of it being corroborated by Professor Ray Lankester. Lilljeborg now accepts *L. kindtii* (Focke) as its right name.

¹ *British Entomostraca*, p. 122.

³ *Ann. Sci. Nat.* ser. 7, vol. xviii. p. 312.

² *Loc. cit.* p. 117.

⁴ *The Midland Naturalist*, ii. p. 225, pl. 5 (1879).

CRUSTACEANS

According to Dr. J. Richard¹ the Gymnomera feed on living prey, consisting generally of other entomostracans. Some of them are of much greater size than that which is normal among the Entomostraca. Their appearance is also strongly differentiated by the projecting limbs. In *Polyphemus* the enormous eye is naturally a conspicuous feature. In *Leptodora* the second antennæ have a huge peduncle, with both the branches four-jointed and the plumose setæ very numerous.

Of the Ostracoda, which have the whole body shut up in a bivalve shell covering as if in a box, three species are recorded by Baird from Rugby, under the names of *Cypris vidua*, Müller, *C. monacha*, Müller, and *C. compressa*, Baird.² The first of these is now classified as *Pionocypris vidua* (O. F. M.), the second, from 'old canal at Rugby,' has been placed in the genus *Notodromas*, Lilljeborg, and the third becomes a synonym of *Cypria ophthalmica* (Jurine), Norman and Brady declaring it to be 'one of the commonest of British species, occurring everywhere in ditches, ponds and lakes, both freshwater and brackish.'³ The Ostracoda are so well protected, each in its own little natural fortress, that enemies of their own size can have little chance against them. They are exceedingly shy of exposing needlessly any tangible part of their tender body or limbs outside the covering valves. Many can swim with great rapidity. Some prefer to pass their time clinging to weeds or crawling about the mud. Some sink and swim by turns. They are very prolific. Their species are numerous, and of these there are no doubt a goodly number in Warwickshire, so that a fuller discussion of the group may conveniently wait till more than three members of it have been recorded.

Our great national library possesses a copy, though a somewhat imperfect one, of the *Reports of the Warwickshire Natural History and Archaeological Society* from 1837 to 1880. In the course of these considerable attention is paid to geology and ornithology, and a plaintive appeal is repeatedly made on behalf of entomology. But that such a subject as carcinology exists cannot be inferred from the two volumes of these collected reports, unless exception be made in favour of the report for 1845. Therein, on page 6, in a list of miscellaneous donations, mention is made of 'a Crab, by Mr. Spicer.' Naturally this crab does not claim to be indigenous to the county, any more than 'a Crustacean' from 'the Lithographic Slate of Solenhofen,' reported on page 6 of the next report. How little then need the student be daunted by negative evidence! How erroneous would have been any inference drawn as to a dearth of crustaceans from the dearth of information about them, which remained almost unbroken down to the year 1879! Since that date researches have shown that at least in one important group the county is richly provided. There are other groups in which it may be expected that a like diligence will have a like result.

¹ *Ann. Sci. Nat.* ser. 7, xviii. 339.

² *British Entomostraca*, pp. 152-4.

³ *Trans. R. Dublin Soc.* ser. 2, iv. 69 (1889).

FISHES

Warwickshire lying in the watershed of the Severn, Trent and Thames sends feeders to each of these rivers, and as might be supposed the tributaries contain the same, or nearly the same, fish as their respective main streams ; but, as will be seen from the localities given in the following list, the fish of the tributaries of the Trent differ in many respects from those of the Avon, and also from those found in the Warwickshire feeders of the Thames. The migratory fish are undoubtedly much interfered with by the locks and weirs, but on the other hand the connection formed by canals between the upper reaches of several of the tributaries of the different river basins has been the means of mixing the species to a certain degree.

TELEOSTEANS

ACANTHOPTERYGII

1. Perch. *Perca fluviatilis*, Linn.

Common and generally distributed in all the considerable streams in the county, and also found in many ponds and canals and other artificial water. According to Mr. J. Steele Elliott it is common in all the pools in Sutton Park, where it must have been introduced.

2. Ruffe or Pope. *Acerina vulgaris*, Linn.

Abundant in rivers and ponds. It is said by Mr. J. Steele Elliott to occur in one pool only in Sutton Park, into which it has doubtless been introduced ; which may indeed be said of all other pools.

3. Miller's Thumb or Bullhead. *Cottus gobio*, Linn.

Common in almost all streams, including small brooks in all parts of the county.

ANACANTHINI

4. Burbot. *Lota vulgaris*, Linn.

Yarrell in his work on British Fishes says, 'The Tame is said to contain the burbot.' Mr. G. Sheriff Tye, writing in 1886, gives the following record of it : 'Is found in the river Anker at Tamworth, the largest fish recorded being 5 lb.'

HEMIBRANCHII

5. Three-spined Stickleback. *Gasterosteus aculeatus*, Linn.

Common in all parts of the county, in pools as well as in streams, including small brooks and even ditches.

Var. *leiurus*, Cuv. et Val.

It occurs in many streams in Warwickshire, but appears to thrive most in the smaller ones, that is in the brooks and ditches. Mr. G. Sheriff Tye, in his list of the fishes found in the neighbourhood of Birmingham, published in 1886, mentions it as being very abundant in the ditches feeding the Anker.

Var. *brachycentrus*, Cuv. et Val.

Very common in the north of the county, where it is found in ditches feeding the Anker, as we learn from Mr. G. S. Tye.

Var. *spinulosus*, Jen. & Yarr.

Mentioned by Mr. G. S. Tye as occurring in the same localities as the last, but less frequently.

6. Ten-spined Stickleback. *Gasterosteus pungitius*, Linn.

Occurs, though not abundantly, in many places in the county. Common in the

FISHES

streams in the north part according to Mr. G. S. Tye.

HAPLOMI

7. Pike. *Esox lucius*, Linn.

Common and indeed abundant in all the larger streams. It occurs in many ponds and canals where it has without doubt been introduced, as for instance in the pools in Sutton Park. Mr. J. Steele Elliott speaks of it as abundant at the latter place.

OSTARIOPHYSI

8. Carp. *Cyprinus carpio*, Linn.

Very rare in the Avon and not recorded by Mr. G. S. Tye as occurring in the Tame or Anker. According to that authority however it has been found in the Plants Brook reservoir, and Mr. J. Steele Elliott speaks of it as numerous in the pools in Sutton Park. It also occurs in many other similar places in the county.

9. Crucian Carp. *Cyprinus carassius*, Linn.

Stated by Mr. G. S. Tye to be not uncommon in small cattle pits in the county.

10. Gudgeon. *Gobio fluviatilis*, Flem.

Very numerous in all the principal streams, spawning in shoals in stony places where there is a rapid flow of water.

11. Roach. *Leuciscus rutilus*, Linn.

Abundant in all the larger streams. It seeks the fibrous roots of willows on which to deposit its spawn, which is consumed in quantity by the broad-nosed eel, as fishermen well know who take the eels in wicker putchins at such places.

Up to the present time there is no recorded occurrence of the Rudd, *Leuciscus erythrophthalmus*, in Warwickshire; though as a known Worcestershire fish its presence in the former county might be expected.

12. Dace. *Leuciscus dobula*, Linn.

Common in the Avon and its feeders. Though occurring in the Trent, there is no record of its frequenting the Tame or Anker. The fish mentioned in Yarrell's *History of British Fishes* as having been found by Mr. W. Thompson in the Leam at Leamington under the name of 'graining' is nothing more than a light coloured dace, such as may be taken from the Stour near Stratford and from the Arrow near Alcester.

13. Chub. *Leuciscus cephalus*, Linn.

Found in all the considerable streams as well as in the canals all over the county. It

is not however mentioned by Mr. J. Steele Elliott as occurring in the pools in Sutton Park.

14. Minnow. *Leuciscus phoxinus*, Linn.

Formerly very abundant in the small streams and brooks, though never numerous in the larger streams such as the Avon, but now less common everywhere. Said by Mr. G. S. Tye to be 'common in many streams' around Birmingham, that is in 1886.

15. Tench. *Tinca vulgaris*, Cuv.

Common in pools but very rare in the rivers, and quite unknown in the small streams.

16. Bream. *Abramis brama*, Linn.

Common in the Avon, frequenting the deep parts and keeping in shoals. More abundant than formerly, but not mentioned as having been taken from the Anker or Tame, and is not known to appear in the smaller streams generally. Its existence in ponds such as those in Sutton Park must be the result of introduction.

The hybrid between this and the next species, known as Pomeranian bream, *Abramis hugghenbachi*, Bloch, also occurs. More than half a century since the present writer, when roach fishing in the Avon near Welford, occasionally took a small fish which seemed to agree with the specific details of the present fish as given in Yarrell's *History of British Fishes*. Specimens having been taken to Mr. Yarrell were stated by him to be examples of the Pomeranian bream, which specific determination was afterwards confirmed by Dr. Gunter, to whom specimens were sent. It was never found in any numbers in the Avon, one or two being taken in a large catch of roach and other white fish either by fishermen in nets or by anglers. Subsequently however to the above mentioned time great numbers were found in the ancient fishponds and stews at Temple Grafton. As those excavations were connected with a small brook, and through it with the Avon, it has been suggested that these small fish had been introduced into the fishponds, and that individuals had escaped by the brook into the Avon. It would however be most unlikely that so valueless a fish would be brought to the fishponds, and the supposition that it had ascended to them from the Avon seems to be a more probable explanation. Certain it is that it was there in abundance and was supposed by the people of the village to be the young of the carp.

The first English specimen was obtained at Dagenham, on the Thames, which river,

A HISTORY OF WARWICKSHIRE

be it remembered, is connected with Warwickshire, though only remotely, by some Oxfordshire streams.

17. White Bream. *Abramis blicca*, Linn.

The writer has seen a few specimens of bream which were taken in the Avon which he has no doubt were identical with the white bream of the Trent. Although specimens from that river have been examined there has not been a direct comparison between them and the ones taken in the Avon.

18. Bleak. *Alburnus lucidus*, Heck. & Kner.

Common in most of the Warwickshire streams. Mr. G. S. Tye records its appearance in the Earlswood reservoir between Birmingham and Stratford-on-Avon, into which it must have been introduced.

19. Loach. *Nemachilus barbatulus*, Linn.

Very few streams are without this species, but it seems to prefer the smaller ones, in which it may be found in plenty, often concealing itself in mud, much as eels are known to do, with its snout only visible.

20. Spinous Loach. *Cobitis taema*, Linn.

Known only to the writer as a Warwickshire fish by the following, which appears in Yarrell's *History of British Fishes*: 'William Thompson, Esq., has found it in Warwickshire.'

MALACOPTERYGII

21. Salmon. *Salmo salar*, Linn.

'It has been taken from the eel traps in the river Tame at Tamworth' (G. Sherriff Tye).

22. Trout. *Salmo fario*, Linn.

Found in many of the streams and brooks in the county. Very rare in the Avon, though occurring sparingly in many of its feeders. It occasionally works its way up

very small brooks, and is taken so near their source that they are mere rills. In Bourne Brook, Fazeley, it has been taken as much as 7 lb. in weight, and in the Thame of the weight of 5½ lb. The river Cole at Puckington is said to contain trout, as are also the streams in Sutton Park. The same may be said of the Stour, Arrow and Alne, as well of streams within the limits of the county which entering Oxfordshire become feeders of the Thames.

23. Grayling. *Thymallus vexillifer*, Linn.

Of this fish, as occurring in the north of the county, Mr. Tye says: 'Also was 17 ozs. Bourne Brook, Fazeley.'

APODES

24. Eel. *Anguilla vulgaris*, Turt.

Numerous in the Avon and its tributaries, and indeed in rivers and pools in all parts of the county.

Without entering into the question of the species of eels it may be well to record the difference of habit of the so-called varieties or species as observed in the principal stream in the county, the Avon.

Silver eels, so designated by the fishermen, have sharp noses, small mouths, the upper surface dark and the lower silvery white, the line of demarcation being well defined. They are caught in nets or at the weirs in the autumn floods (locally termed 'freshes'), and rarely if ever on lines, in wicker putchins or in mud.

Mud eels have broad heads, wide mouths, yellowish olive backs, and more or less yellow bellies, and all the colours are much blended. They are caught in summer on lines or in wicker putchins, and are taken in winter from mud by means of the eel spear. It is very rarely that one is obtained with the silver eels in the nets.

REPTILES AND BATRACHIANS

Very little need be said relative to the occurrence or the distribution of the reptiles and amphibia of Warwickshire more than what falls under the head of the different species. There is however one which demands special mention, namely the palmated newt. It is common and even abundant all over the oolitic district, including the Cotteswolds and the adjoining parts of Oxfordshire, as well as the near part of Warwickshire ; but the further from those districts the rarer does it become, until it is quite uncommon, indeed rare in the valley of the Avon.

REPTILES

1. Common or Viviparous Lizard. *Lacerta vivipara*, Jacq.

Although not abundant the present species occurs at several places in the county, namely on a common near Claverdon ; in close proximity to Warwick, where the writer has seen it playing in and out of the rough stone wall around the Priory ; and in the sandstone pits near the town. It has also appeared near Ragley, and at several localities at the foot of Edgehill, as at Avon Dasset and Burton Dasset. Mr. J. Steele Elliott records its former appearance in Sutton Park, where however it has been exterminated.

2. Sand Lizard. *Lacerta agilis*, Linn.

The only localities in the county where the present species has been observed are the following : namely at two places on the Ridgeway near Alcester, and in the refuse at the mouth of some abandoned openings for gypsum at Spernal, also near Alcester. But it is rare at those localities.

3. Slow-worm or Blind-worm. *Anguis fragilis*, Linn.

Occurs in several places in the county but

not numerously. It has been seen by the writer at Claverdon, also near Wootton Wawen, where it is not unfrequent. It is more common in that part of the county adjoining Oxfordshire, and occurs at Brailes and near Compton Wynnates. At the above places it has been observed by parties of geologists, most frequently beneath large stones. It was at one time found in Sutton Park, but as we learn from Mr. J. Steele Elliott is no longer to be seen there.

4. Common or Ringed Snake. *Tropidonotus natrix*, Linn.

A common and generally distributed species.

5. Common Viper or Adder. *Vipera berus*, Linn.

Though not abundant in the county the adder (the name by which it is known) is found wherever there are sandy or stony places and the soil is not too retentive, but is unknown on the fertile alluvial parts of the county. All the specimens which have been examined have possessed the normal colour, none of the described varieties having been observed.

BATRACHIANS

1. Common Frog. *Rana temporaria*, Linn.
Common and generally distributed.

2. Common Toad. *Bufo vulgaris*, Laur.
Less abundant than the frog, but yet

common almost everywhere. The toad is frequently found in mid-winter in holes deep under ground, and brought to light by the removal of heaps of earth, or by the grubbing of hedgerows or trees.

A HISTORY OF WARWICKSHIRE

There is no record up to the present time of the occurrence of the natterjack toad in the county.

3. Great Crested Newt. *Molge cristata*, Linn.

Common in stagnant water in ditches and pools.

4. Common Newt. *Molge vulgaris*, Linn.

A common species which not only frequents stagnant water, but is often found in damp underground places, in abandoned

quarries, and in heaps of earth or other similar places during the winter.

5. Palmated Newt. *Molge palmata*, Schneid.

The palmated newt is local rather than rare in the county. It is very common on the oolitic hills of Gloucestershire and the near parts of Warwickshire, though comparatively rare in the alluvial or low-lying tracts of the county, the writer having only very occasionally seen it in the valley of the Avon. At present there is no record of its occurrence in the north of Warwickshire.

BIRDS

The avifauna of the county does not show any strongly marked characteristics. As might be expected, however, many sea coast or estuarine birds follow the course of the Avon from the Bristol Channel, and appear in Warwickshire as spring or autumn visitors, and heavy gales from the south-west drive coast species into the county.

The Avon is also the resort of birds which do not follow its course, as for instance the swallow, which in former times came in countless numbers to roost in the reed and osier beds. And as surely as they came so surely came the hobbies to prey upon them, and might be seen two or three at a time. Occasionally, though but rarely, a merlin would appear with the hobbies. Again, the peregrine falcon has been a not very rare winter visitor to the banks of the Avon, attracted by the various water and other birds found there at that season.

Whether the spring and autumn migration of birds across England between the Bristol Channel and the Wash (in the line of which Warwickshire lies) exercises any influence on the avifauna of the county is a question which remains for future determination. Of the summer visitors, consisting largely of warblers, Warwickshire always has an abundance. The appearance in extraordinary numbers of the Arctic tern up the course of the Avon in May, 1842, must be regarded rather in the light of an irruption than a migration, but as the flight followed the stream we may assume that had there been no river there would have been no terns.

Sutton Coldfield Park, in the north of the county, merits special mention from its having been the haunt of many rare birds. It possesses woodland, marsh, pools, and small streams, and was formerly frequented by black grouse, red grouse, all the species of harriers, the little bittern, the little egret, as well as the common bittern, the latter being by no means of infrequent occurrence there.

1. Missel-Thrush. *Turdus viscivorus*, Linn.

Although much less abundant than formerly the recent mild winters have done much towards restoring its numbers. That the missel-thrush suffers very greatly in severe winters is without doubt. In the early autumn, about harvest time, this bird is very partial to fields of standing beans, from which small parties are often flushed by harvest people, and later on by the dogs of the partridge shooters.

2. Song-Thrush. *Turdus musicus*, Linn.

The numbers of the song-thrush are considerably augmented in the autumn. Sometimes before harvest the beans are almost smothered by small brown beetles, which are consumed in immense numbers by the thrushes. There is no doubt however that snails constitute to a great extent the food of the song-thrush.

A HISTORY OF WARWICKSHIRE

3. Redwing. *Turdus iliacus*, Linn.

There is not apparently any diminution in the number of redwings which arrive in the autumn, though when all hedge fruit has been consumed they seem to depart. They never, so far as the present writer has observed, feed on snails or field roots like the song-thrush, blackbird, or fieldfare.

4. Fieldfare. *Turdus pilaris*, Linn.

A regular winter visitor to the county of Warwick. The fieldfare is a much more omnivorous feeder than its congeners, often in severe winters it has recourse to fields of turnips and other succulent roots, and does considerable damage.

5. White's Thrush. *Turdus varius*, Pallas.

A bird of this species, which had been shot at Packington, was brought to Mr. Peter Spicer of Leamington, the son of the veteran taxidermist of Warwick, for preservation. The occurrence was duly recorded in the *Field* of November 5, 1898.

6. Blackbird. *Turdus merula*, Linn.

From the observations of many years I am confident that the blackbird seeks for its food in winter almost wholly on the ground in woods, coppices, hedgerows, brakes, or shrubberies, where it feeds chiefly on small gastropoda and coleoptera. But that fruit in great variety is consumed all through the summer admits of no doubt.

7. Ring-Ousel. *Turdus torquatus*, Linn.

Known in Warwickshire as a passing visitor in spring and autumn, but of very uncertain occurrence. It has however been too often noted to demand a record of its appearances, which have not been confined to any part of the county but spread over the whole of it.

8. Wheatear. *Saxicola ænanthe* (Linn.)

A regular visitor in no great numbers in spring and autumn. There are two distinct varieties, a small one, which arrives early, and a larger one coming two or three weeks later. It is probable that the latter breeds occasionally in the county. In the neighbourhood of Birmingham the wheatear is recorded by Mr. Chase as common in spring, but whether the large or small variety has been noticed is not mentioned.

9. Whinchat. *Pratincola rubetra* (Linn.)

A common and indeed abundant summer visitor, breeding freely in the meadows bordering the streams as well as in the open fields.

10. Stonechat. *Pratincola rubicola* (Linn.)

A much less abundant bird than the last, and resident. It breeds most commonly in rough stony places, and the nest is generally carefully concealed. From the circumstance of pairs being commonly seen together in winter it seems probable that the stonechat, like many other birds, pairs for life.

11. Redstart. *Ruticilla phœnicurus* (Linn.)

An early summer visitor to Warwickshire, and generally distributed in the county. The nest is always in a hole in a wall or tree, and far enough in to be out of sight.

[Red-spotted Bluethroat. *Cyanecula suecica* (Linn.)

Has occurred near Birmingham and is recorded in Yarrell's *History of British Birds*, i. 322.]

12. Redbreast. *Erithacus rubecula* (Linn.)

Though common and resident the robin is not abundant.

13. Nightingale. *Daulias luscinia* (Linn.)

A well known summer migrant to the greater part of the county, but showing a decided preference for the low lying alluvial tracts. In the Birmingham district it is however stated by Mr. Chase to be numerous and to breed. Yet Mr. Steele Elliott speaks of it as rare at Sutton Coldfield, indeed he only gives one instance of its appearance there, namely on August 11, 1895.

14. Whitethroat. *Sylvia cinerea* (Bechstein)

Common in every hedge-bottom and brake throughout the summer.

15. Lesser Whitethroat. *Sylvia curruca* (Linn.)

A far less common summer migrant than the last named, and frequenting trees and bushes rather than the rubbish in the bottom of a hedge. The nest is a beautiful structure, thin and fragile looking, but strong, and often placed some distance from the ground.

16. Blackcap. *Sylvia atricapilla* (Linn.)

A common summer migrant, arriving early, and generally distributed, though much more frequently seen and heard in the low-lying parts, especially in the valleys of the Avon and other streams. It is quite a mimic, but has a very sweet, wild, but intermittent song of its own, which can never be mistaken for that of any other bird.

BIRDS

17. Garden-Warbler. *Sylvia hortensis* (Bechstein)

Not so often seen as the blackcap, but nevertheless fairly common in the county. Its song is a low, sweet, and continuous warble, having a conversational tone, and the bird while uttering it is very earnest and gesticulating.

18. Goldcrest. *Regulus cristatus*, K. L. Koch.

A resident bird in Warwickshire which breeds in many localities, though not abundantly. The writer has seen a nest which was suspended from the branch of a yew tree in a garden at the back of a house in High Street, Warwick, the contents of which were visible from an upper window. That garden was however only separated from the wooded grounds of the castle by a back lane and a high wall. In the great Lebanon cedars at the castle the writer has many times seen this little bird.

19. Firecrest. *Regulus ignicapillus* (Brehm)

Although this bird has undoubtedly occurred in Warwickshire no localities or dates can be recorded. A few specimens killed at no great distance from Warwick were brought to John Spicer of that town for preservation, one of which, a male, was examined by the present writer when freshly mounted.

20. Chiffchaff. *Phylloscopus rufus* (Bechstein)

A very early summer migrant, but though common not very abundant. It is also an early breeder, the nest being sometimes constructed before its congeners, the willow-warbler and the wood-warbler, have made their appearance. It is generally placed on or near the ground, but the writer has quite recently seen one in a thick mass of ivy on the top of a wall eight feet from the ground.

21. Willow-Warbler. *Phylloscopus trochilus* (Linn.)

This bird so closely resembles the chiffchaff as to be with difficulty distinguished from it. There is however a wide difference in the song and in the coloration of the eggs. It is common over the greater part of the county.

22. Wood-Warbler. *Phylloscopus sibilatrix* (Bechstein)

A much rarer bird in Warwickshire than its allies, the chiffchaff and willow-warbler, but easily distinguished from them by its somewhat greater size, and by its relatively longer wings. It is a frequenter of trees and coppices, and its peculiar trill, for it hardly

merits the name of song, may be sometimes heard from the very top of a tall tree. Its domed nest, always on or near the ground, is at once recognizable by its lining of horse-hair.

23. Reed-Warbler. *Acrocephalus streperus* (Vieillot)

A noisy little summer migrant found by all the streams in the county where there are reeds. It will sometimes frequent osier beds, and the present writer has heard it and seen its nest in the osiers almost immediately under the walls of Warwick Castle. The nest is always suspended between three or four reeds or osiers, and occasionally between the stems of the willow herb, but reeds are always preferred.

24. Marsh-Warbler. *Acrocephalus palustris* (Bechstein)

The writer has heard the warble of this sweet songster in the neighbourhood of Stratford-on-Avon more than once, and is fully assured of its occurrence in Warwickshire, but cannot speak of its distribution in the county.

25. Sedge-Warbler. *Acrocephalus phragmitis* (Bechstein)

To be seen in almost every hedge in most parts of the county.

26. Grasshopper-Warbler. *Locustella naevia* (Boddaert)

Although by no means a rare bird it is not abundant, and appears to be rather local even within the limits of the county. In the north of Warwickshire it is less abundant than elsewhere, and is reported by Mr. Chase to be far from common around Birmingham. In the valley of the Avon its peculiar trill may be often heard in fields of wheat and barley. In these places it breeds, the nest being placed on the ground and well concealed beneath the tangled corn.

27. Hedge-Sparrow. *Accentor modularis* (Linn.)

Common, resident, and generally distributed.

28. Alpine Accentor. *Accentor collaris* (Scopoli)

An alpine accentor which was shot in proximity to the village of Ettington near Stratford-on-Avon a few years since may have been killed in Warwickshire, for Ettington is almost on the line of division between the counties of Warwick and Worcester.

A HISTORY OF WARWICKSHIRE

29. Dipper. *Cinclus aquaticus*, Bechstein.

The occurrence of the dipper in Warwickshire can only be recorded for a few localities. Nearly thirty years ago one which had been shot in the Leam at Leamington came into the hands of the present writer ; and he has seen two or three others which were shot in the brook which runs into the Avon at Sherborne. More recently, though still but rarely, dippers have been taken in the Alne brook near Alcester. Some of these which still retained some of the nesting feathers had doubtless been bred there. Mr. Chase writing in 1886 speaks of the dipper as very rare around Birmingham, but mentions the occurrence of one at Handsworth on 12 January, 1882. From Mr. Ground of Birmingham the writer learns that a dipper was taken at Hay Mill in the Birmingham district in the winter of 1894-5.

30. Long-tailed Tit. *Acredula caudata* (Linn.)

Formerly more abundant than at the present time, though still not rare. It is one of the birds which if not protected will certainly become scarce ; its conspicuous nest stands small chance of escaping notice and destruction.

31. Great Tit. *Parus major*, Linn.

There does not seem to be any fear of this bird becoming rare, for it is quite able to take care of itself. A cocoanut broken in half is a very great attraction in the winter months to the great, blue and coal-tits, and affords a good opportunity for observing their habits. It will be seen that the great tit is master and has first to be satisfied ; then comes the blue tit, and finally the coal-tit, the latter having to keep a sharp look-out to snatch even a hasty meal when opportunity serves. Both great and blue tits are very quarrelsome little birds, but the coal-tit is the reverse. The marsh-tit never comes to feed on the cocoanut.

32. Coal-Tit. *Parus ater*, Linn.

It is rather remarkable that the nest of this bird has not been observed in the counties of Warwick and Worcester, nor in the adjoining part of Gloucestershire, though as a species the bird is anything but rare in these counties. It is probable that there are arrivals in the autumn which remain through the winter and depart in the spring.

33. Marsh-Tit. *Parus palustris*, Linn.

Although as abundant as the coal-tit it is less frequently noticed, as it rarely comes near dwelling houses but frequents coppices and

brakes in small parties. It breeds, so far as the present writer has observed, in holes in trees, which it sometimes excavates for itself. It rarely if ever makes use of a hole in masonry for the nest.

34. Blue Tit. *Parus cæruleus*, Linn.

The blue tit, locally known as the tom tit, is a most courageous and impudent little fellow who will enter outhouses and help himself to anything which is to his taste. He will visit the slaughter-house of the village butcher and feed on any scraps of offal meat which may be there ; and will literally peel the inner surface of the skins of sheep or other animals which have been hung on the beams in the cart or cattle shed to dry. But he also consumes an enormous number of very small insects which he obtains by laborious search in the branches of trees and bushes. The nest is in any suitable hole either in building or tree.

35. Nuthatch. *Sitta cæsia*, Wolf.

A great frequenter of parks, orchards and other places where there are aged trees, but very rarely seen in growing woods or coppices. In an orchard near the dwelling of the present writer where a number of fowls are daily fed with maize, it is no uncommon thing to see a nuthatch carry off a large grain and consume it at leisure in an apple tree. Occasionally one of these birds will come quite near the windows to feed upon cocoanuts fixed up for the tits.

36. Wren. *Troglodytes parvulus*, Koch.

This is one of the most prying of birds, often appearing in very odd places, almost always however near the ground. In the winter the hedger leaves behind him along the hedgerow faggots of wood (locally termed 'kids'), into which the wren very often creeps, and the writer has seen one fly out of a 'kid' when it was on the fork to be thrown on the wagon and taken to the woodyard. The nest is constructed in a great variety of situations, some of them very remarkable.

37. Tree-Creeper. *Certhia familiaris*, Linn.

This as a species is not by any means numerous ; indeed it might almost be said to be uncommon. The best places to observe its habits are in parks and orchards where there are large or old trees ; but it has a habit of passing round to the other side of a tree trunk to avoid observation. It is only seen singly, except in the breeding season. The nest is rarely seen, but is always in some crack

BIRDS

or opening, which may be either in a building or old tree. During a very long period of observation the present writer has only discovered three nests.

38. Pied Wagtail. *Motacilla lugubris*, Temminck.

As a resident bird the pied wagtail is not abundant, though common, and the nest is less frequently seen than formerly. The flights, chiefly of young birds, which repair to the Avon and other streams are fewer in number and smaller. The osier beds near the castle at Warwick used formerly to be a favourite roosting place with this bird. In the autumn the number is materially increased by arrivals which probably pass on, as they are not often seen in mid-winter, though a few frequent the sheepfolds, and sometimes suffer severely from the wool and earth which tightly clogs their toes.

39. White Wagtail. *Motacilla alba*, Linn.

As a Warwickshire bird the record was for some time confined to a single occurrence; that of an adult male which was seen by the writer feeding on the mud in a ditch in close proximity to the bridge over the Avon at Stratford. The beautiful pearly grey of the back will at once distinguish this species from the pied wagtail. Mr. Steele Elliott reports a pair which appeared in the park at Sutton Coldfield on 8 May, 1897, and it may be confidently expected to appear in other localities in the county.

40. Grey Wagtail. *Motacilla melanope*, Pallas.

Except as an autumn visitor this species is rare in the county, and has never been recorded as breeding in it, and only once has it come under the notice of the present writer in full summer plumage. In the early part of the summer of 1898 Mr. C. C. Jones of Loxley Hall shot one with a full black throat near the village of Loxley, which is now in his collection. In the district around Birmingham it has been observed in summer dress, and Mr. Chase has suggested the probability of its sometimes breeding there. The sides of streams are the haunts of the grey wagtail, and it is most frequently seen just when the various water-plants have rotted down and lie in masses in the water. On these it loves to run and flit.

[Blue-headed Yellow Wagtail. *Motacilla flava*, Linn.

A bird of this species was shot at Welford-on-Avon in the county of Gloucester only two hundred yards from the Avon where it divides that county from Warwickshire.]

41. Yellow Wagtail. *Motacilla raii* (Bonaparte)

An abundant bird all through the summer, breeding freely in cultivated fields and meadows, and generally distributed in the county.

42. Tree-Pipit. *Anthus trivialis* (Linn.)

Common and generally distributed in the county all through the summer, and is to be seen chiefly in meadows and pastures.

43. Meadow-Pipit. *Anthus pratensis* (Linn.)

A common resident which breeds in the county and is met with in sheepfolds in the winter, and also in meadows which have recently been flooded. In the latter places it seems to find abundance of food left by the receding water.

44. Rock-Pipit. *Anthus obscurus* (Latham)

This bird appears occasionally on the Avon, though but rarely. Some years ago several were shot near Warwick and brought to John Spicer of that town for preservation, some of which are in the writer's collection. As it is known to frequent the broad water of the Severn its appearance on the Avon might be expected more frequently.

45. Golden Oriole. *Oriolus galbula*, Linn.

A good many years since two golden orioles, probably a pair, were shot on the estate of Sir Robert Peel near Tamworth, and brought to John Spicer of Warwick for preservation. There is also a record in the *Zoologist* in 1871 of the occurrence of a bird of this species at Barton near Tamworth. About twenty years ago a fine male was shot at Ilmington near the boundary of Warwickshire and brought to Mr. G. Quatremayne of Stratford, in whose hands it remained for some time and was seen by the present writer. The last named bird was repeatedly seen in and near the village of Ilmington before being shot.

46. Great Grey Shrike. *Lanius excubitor*, Linn.

The present, though a rare bird, has too frequently appeared in the county to render a close enumeration of the instances necessary. Specimens were years ago brought to John Spicer of Warwick for preservation, and others were subsequently received by H. Coombs of Stratford-on-Avon, namely in the winter of 1844-5 and 1846-7. More recently Mr. Hunt of Alcester has received specimens which were shot in the county. One which was taken near Stratford in the winter of 1844-5 was secured in the following manner.

A HISTORY OF WARWICKSHIRE

A caged goldfinch was hung on a wall in a brickyard, and the shrike was seen to strike at it, but was driven away. Shortly afterwards however the shrike was seen to be endeavouring to drag the goldfinch, which was killed, through the wires of the cage. A trap baited with the dead bird secured the assassin, which came to the writer with two broken legs. Mr. Chase records the occurrence of this bird at two places around Birmingham, namely at Wylde Green on 14 November, 1871, and at Rubery Hill on 31 October, 1881.

47. Red-backed Shrike. *Lanius collurio*, Linn.

A regular summer visitor and generally distributed, breeding freely in the county. Its habit of impaling food on thorns is well known, and mice, voles, shrews, young birds and large insects, such as beetles, humblebees, and large moths, have been often seen secured in that manner in thorn bushes, always however inside the bush and not observable unless looked for.

48. Waxwing. *Ampeis garrulus*, Linn.

This handsome bird has appeared occasionally in the county. One preserved in the Warwick Museum was taken near Coventry. A very fine male, having six of the wax-like appendages on each wing, was shot at Red Hill between Stratford-on-Avon and Alcester on 18 January, 1850, and came at once into the hands of the present writer. Mr. Chase records the occurrence of one at Aston Hall near Birmingham about 1845, and another which was killed at Rednal on 30 January, 1882.

49. Pied Flycatcher. *Muscicapa atricapilla*, Linn.

As an occasional summer migrant the pied flycatcher has occurred in the county, and I have seen specimens in the hands of John Spicer of Warwick which had been shot near that town. One of them, an adult male, was shot while perched on the roof of the flour mill close to the walls of Warwick Castle. Near Birmingham it is said by Mr. Chase to be rare. Mr. Steele Elliott, quoting Mr. Chase, states that it nested on 5 June, 1882, in the park at Sutton Coldfield, and also that a pair was seen there by Mr. Bitteridge in May, 1889.

50. Spotted Flycatcher. *Muscicapa grisola*, Linn.

A regular summer migrant and generally distributed. The selection of its nesting place is sometimes remarkable. On two occasions

a nest has been placed immediately over a door through which people passed continually.

51. Swallow. *Hirundo rustica*, Linn.

With the continuance of such a decrease in its numbers as has taken place of late years, this beautiful bird will at no distant time have to be recorded as a rare British bird. There are now only individuals where there were formerly hundreds, and a swallows' nest has become an unusual thing. The very great decrease in numbers is difficult of explanation. That the rarity of some birds has been due to the interference with their nesting places there can be no doubt, but that cannot be said of the swallow, for as a general rule its nest is inviolate. And the explanation is not made easier when it is remembered that a pair of swallows will ordinarily rear three broods in one summer.

52. House-Martin. *Chelidon urbica* (Linn.)

This species like the swallow now appears in decreased numbers, but by no means in so great a degree.

53. Sand-Martin. *Cotile riparia* (Linn.)

Where there is suitable accommodation for nesting, the present species does not seem to have decreased in numbers; but it must always be somewhat local according to the presence or absence of a nesting-place.

54. Greenfinch. *Ligurinus chloris* (Linn.)

The greenfinch at one time became a somewhat local bird, owing apparently to high cultivation having reduced the hedges suitable for its nest. Of late years however the number has increased, and there is certainly more nesting accommodation in the higher and untrimmed hedges.

55. Hawfinch. *Coccothraustes vulgaris*, Pallas.

Though much more abundant than formerly and generally distributed the hawfinch, owing to its shy and wary nature, is but seldom seen. It will however come quite near to dwellings and will even build its nest within sight of the windows. A nest seen by the writer was in the thick fork of an apple tree, and was only discovered by the birds being watched from a window. When completed nothing could be seen of the nest from below except the projecting ends of a few sticks, which gave it the appearance of the fragmentary remains of a nest of the previous summer. The hawfinch has been accused of a partiality for green peas, which it is said to take from the pods. It feeds freely during the winter months on the seeds of the maple.

BIRDS

56. Goldfinch. *Carduelis elegans*, Stephens.

Though much less abundant in the county than formerly the goldfinch is found breeding in many places. In the end of autumn or early in winter its numbers are increased by the arrival of companies varying in number from five or six to twenty or thirty. At that time the seeds of thistles, teasels and burdocks constitute its chief food, but in midwinter the alder and ash trees are visited and their seeds consumed. It is only however the germ of the seed of the ash which is picked out and eaten. In the north side of the county, that is in the Birmingham district, Mr. Chase, writing in 1886, reports the goldfinch as scarce.

57. Siskin. *Carduelis spinus* (Linn.)

The appearance of the siskin as a winter visitor to Warwickshire depends almost wholly on the presence or the absence of alder trees, though whole seasons pass without its being seen even when trees of that kind thickly fringe the streams. In some winters the siskin has appeared in very considerable numbers in the immediate vicinity of the town of Warwick and also in the alder trees around the large fishponds at Coughton Court near Alcester and probably at other localities.

58. House-Sparrow. *Passer domesticus* (Linn.) Abundant everywhere.

59. Tree-Sparrow. *Passer montanus* (Linn.)

Much less abundant than the house-sparrow and very seldom seen in the close vicinity of houses. The nest however is sometimes in the thatch of an old building but generally outside, as for instance under the eaves. Pollard withy trees remote from all dwellings are favourite places for the nest of this species.

60. Chaffinch. *Fringilla cœlebs*, Linn.

This pretty and lively little bird is a very torment at certain seasons to the growers of cruciferæ, more especially radishes, and it seems to have a sort of intuitive knowledge of the places where the seeds have been sown even before the young plants make their appearance. As soon however as they show themselves they are pulled up and a part eaten; the ground is sometimes literally strewn with the long white underground stems.

61. Brambling. *Fringilla montifringilla*, Linn.

An uncertain winter visitor which sometimes appears in considerable numbers in most parts of the county and mixes with flights of finches in weedy stubbles, amongst which

they are conspicuous from their white rumps. Occasionally they approach farmsteads and feed on the seeds which have been winnowed from the corn and thrown out.

62. Linnet. *Linota cannabina* (Linn.)

The linnet is one of those birds which is as numerous as ever. A weedy stubble in the autumn where there is plenty of scattered charlock seed is a certain attraction and will bring an abundance of linnets. Any thick bush or hedge is suitable for a nesting-place, though a gorse bush is preferred.

63. Lesser Redpoll. *Linota rufescens* (Vieillot)

As a Warwickshire bird this has always been regarded by the present writer as a winter visitor, frequenting the alder trees by the sides of the streams and feeding on their seeds and also on those of the willow herb. Once only has a nest been noted. It was in the leafy branch of a plum tree in a garden at Alcester. However, in the northern part of the county it has probably nested more frequently, and Mr. Chase speaks of it as common and resident in the Birmingham district.

64. Twite. *Linota flavirostris* (Linn.)

A rare winter straggler, occasionally appearing in severe weather and making its presence known by its peculiar and monotonous note.

65. Bullfinch. *Pyrrhula europæa*, Vieillot.

The bullfinch though a common resident is not abundant. Of a shy and retiring nature it is not however a wild or wary bird, but may be approached quite nearly when feeding on the buds of fruit trees or on the long seeds of the ash.

66. Crossbill. *Loxia curvirostra*, Linn.

A winter visitor of very uncertain appearance, but sometimes arriving as early as August. In 1845 a considerable number made their appearance at Claverdon, and several were shot and brought to J. Spicer of Warwick for preservation. All were red birds. Crossbills have been shot at various times in the park at Warwick Castle, which also have come into the hands of the same bird preserver. On 14 November, 1855, a flight of these birds alighted in a coppice of conifers at Little Alne near Alcester, several of which were shot and brought to the present writer. They were of all colours, from red to a dingy green. In the Birmingham district the crossbill has occurred at Solihull, Wylde Green and Aston Park as recorded by Mr. Chase.

A HISTORY OF WARWICKSHIRE

67. Corn-Bunting. *Emberiza miliaria*, Linn.

A common though not by any means an abundant bird. Formerly it used to frequent fields of vetches, in which the nest was often placed; but of late years, since fewer vetches have been planted, the nest is more frequently found in coarse herbage of any kind, but not often in the bottoms of hedges.

68. Yellow Hammer. *Emberiza citrinella*, Linn.

An abundant and resident bird.

69. Cirl Bunting. *Emberiza cirlus*, Linn.

A very locally distributed bird even within the limits of the county, but nevertheless a resident one. It appears to be most frequent in some parts of the valley of the Avon, for instance near Stratford, while at Leamington, as I learn from Mr. Peter Spicer, it is of rare occurrence, only two having come into his hands during a period of more than twenty years. Although recorded by Mr. Aplin as occurring near Banbury there is no evidence of its presence in the near part of Warwickshire. Around Birmingham and in the Tamworth district it is unknown.

70. Reed-Bunting. *Emberiza schoeniclus*, Linn.

A resident bird, frequenting the sides of streams or pools.

71. Snow-Bunting. *Plectrophenax nivalis* (Linn.)

A rare winter straggler. One is recorded from Harborne near Birmingham, and Mr. T. Ground informs me of one that appeared at Haywood near that city in the winter of 1894-5. Near Stratford the snow-bunting has appeared on two or three occasions, always in the winter.

72. Starling. *Sturnus vulgaris*, Linn.

Mr. O. V. Aplin, speaking of the starling as an Oxfordshire bird, says, 'An abundant and increasing resident,' which is precisely what may be said of it as a Warwickshire bird. Towards the end of summer great flocks visit the bean fields and feed on the aphides which sometimes abound there.

73. Rose-coloured Starling. *Pastor roseus* (Linn.)

A male in nearly adult plumage was shot in a cherry orchard at Barton in the parish of Bidford in the summer of 1854 by a man engaged in keeping birds from the ripening cherries. A second, an adult male, which had been shot somewhere near that town, was brought to Mr. Hunt of Alcester for preservation.

74. Jay. *Garrulus glandarius* (Linn.)

A common resident, frequenting woods and coppices.

75. Jackdaw. *Corvus monedula*, Linn.

Common and resident wherever there are suitable nesting places. Three broods are sometimes reared by the same pair of birds, as the writer has determined by the observation of a nest in the hole of a tree on his premises. Such was the case in the summer of 1900.

76. Magpie. *Pica rustica* (Scopoli)

Much less abundant throughout the whole of the county than formerly. The nest of the magpie is well worth careful examination. Dead but not decayed thorns are largely, indeed almost exclusively, made use of as material, and they are so well put together that even when in the very top of a tall tree in an exposed place the nest is rarely if ever blown out. Fine flexible roots constitute its lining.

77. Raven. *Corvus corax*, Linn.

It is many years since the raven last nested in Warwickshire or even made its appearance there. Between thirty and forty years ago the Rev. W. T. Bree of Allesley near Coventry, then a man advanced in years, informed the writer that he remembered the raven breeding in that neighbourhood in the early part of his life, but that no nests had been known for many years. An aged native of Snitterfield often spoke to the writer of the nesting of the raven in his boyhood in some great elms near that place, which he said had years before disappeared from age, hurricanes or the axe. Within the memory of the present writer the raven was an occasional visitor to the county, and it was no uncommon thing to see one or perhaps a pair pass over and betray their presence by their croaking. On one occasion the remains of one were seen nailed to the gable of a building with other so-called vermin at Coughton Court, the residence of the Throckmorton family. In 1841 a raven frequented a rickyard at Clopton near Stratford-on-Avon, where it fed on dead rats, which had been trapped in a rickyard and thrown out into an adjacent field. A raven which was shot by the keeper in the park at Warwick Castle some time in the 'fifties' is now in the writer's collection.

78. Carrion-Crow. *Corvus corone*, Linn.

The numbers of this handsome bird—a miniature raven—have greatly decreased within the last twenty or thirty years except in a

BIRDS

few favoured localities. Mr. Aplin says, 'In the north of the county [Oxfordshire] where the crow has it all his own way it is particularly abundant.' As might be expected it is common in the adjacent part of Warwickshire. At the commencement of the breeding season the crow goes through some remarkable vocal exercises, wholly unlike the incessant and monotonous caw, caw, caw of the rook. He commences with a rather shrill repetition of a note something like the syllable 'crocht,' which is followed by some low modulated sounds, and he ends with a deep double note sounding like 'kalóre' repeated many times, the last and accented syllable being accompanied by an upward fling of the wings, for the wind up of the performance generally takes place on the wing. The alarm note is one which once heard, especially at nightfall when all is still, is not easily forgotten.

79. Hooded Crow. *Corvus cornix*, Linn.

An occasional visitor to the county, sometimes frequenting the sides of streams and feeding on mussels and other molluscs at low water as well as associating with herds of cattle in pastures. Mr. Chase records the breeding of the hooded crow in Sutton Park in May, 1883, and Mr. Steele Elliott mentions its nesting there in 1894.

80. Rook. *Corvus frugilegus*, Linn.

The abundance of the rook depends wholly on its protection at breeding time.

81. Sky-Lark. *Alauda arvensis*, Linn.

A common and resident bird, whose music is heard in almost every field.

82. Wood-Lark. *Alauda arborea*, Linn.

An uncommon and local bird in the county, and even rare in the northern part, as I am informed by Mr. Chase. Its rather peculiar song at once announces its presence.

83. Swift. *Cypselus apus* (Linn.)

This, perhaps the most remarkable of our birds, is a common summer visitor whose numbers have suffered no diminution. It exists almost entirely on the wing except during the period of nesting. The intercourse between the sexes takes place high up in the air, where also it is now supposed to spend the night as well as the day. Its habits have led country people to say that they retire to the upper regions of the atmosphere to roost. There is no doubt that the swift is a more or less nocturnal bird. The large and rather deeply sunken eyes seem to

indicate as much, and the whole face of the bird has a very owl-like appearance. When or where the swift retires to rest is not at present within our knowledge.

84. Nightjar. *Caprimulgus europæus*, Linn.

A summer visitor which cannot be termed rare, though it is nowhere plentiful. It is quite as common in the north as the south side of the county, and breeds where there are suitable surroundings.

85. Wryneck. *Ijnx torquilla*, Linn.

The wryneck is most certainly less common than formerly. Its peculiar and unmistakable song, if such it can be called, is not as often heard, and specimens are more rarely brought to the bird stuffers for preservation. It is more a local than a rare bird.

86. Green Woodpecker. *Gecinns viridis* (Linn.)

Wherever the growth of timber suits the habits of this bird no diminution in its numbers appears to have taken place, and its well known laughing voice may be heard.

87. Great Spotted Woodpecker. *Dendrocopus major* (Linn.)

Although much less common than the green woodpecker, this species is not rare in the county, but it is more dependent than even the last species on the presence of large and aged trees. The nest, to judge by the very few instances which have come to the knowledge of the writer, is high up in some half-decayed tree, and not in a conspicuous place; the beech appears to be frequently chosen. There is no longer any doubt that the loud jarring rattle which this bird makes in the spring is caused by very rapid strokes of the bill on hard wood or bark. It is reported by Mr. Steele Elliott to be not uncommon in the park at Sutton Coldfield, where it breeds, choosing by preference the oak and holly trees in which to excavate a nesting place.

88. Lesser Spotted Woodpecker. *Dendrocopus minor* (Linn.)

A commoner bird than the last and more generally distributed. At the end of January and all through February, its presence is known by the jarring sound that it makes and which resembles that made by the greater spotted woodpecker, except that the vibrations are smaller and more rapid. Ancient orchards are favourite haunts of this little bird, but the nest is not easy to find, being generally more or less out of sight, and only to be dis-

A HISTORY OF WARWICKSHIRE

covered by the chips which have fallen to the ground when the hole was being made.

89. Kingfisher. *Alcedo ispida*, Linn.

There can be little doubt that the diminution in the numbers of this bird has been caused in a great measure by the extremely wet summers of about twenty years ago. In 1879 the meadows bordering the streams in the county were in a state of flood for several weeks during the breeding season, and the nests of the kingfishers must have been destroyed wholesale. With the return of more favourable nesting times the kingfishers, as might be expected, have become more numerous, and although still uncommon more of these beautiful birds may now be seen on the Avon and its tributaries.

90. Bee-Eater. *Merops apiaster*, Linn.

In one instance only has the bee-eater been met with in Warwickshire. Two were seen and one of them shot at Red Hill on the road between Stratford-on-Avon and Alcester on 29 May, 1886. The bird which was shot proved to be a female containing enlarged eggs, and had she been spared it is probable that she would have nested somewhere near.

91. Hoopoe. *Upupa epops*, Linn.

Several specimens of this bird which have occurred in the county are preserved in collections. One in the Warwick Museum was shot at Brinklow; another in a private collection was shot at Oak farm, three miles north-west of Stratford-on-Avon; while a third in the writer's collection was taken at Broom in the parish of Bidford in 1852. A fourth occurred at Henley in Arden, which having been shot was taken to Warwick for preservation, where the present writer saw and examined it. Mr. Chase gives several occurrences of the hoopoe near Birmingham, namely at Witton, Quinton, Oscott, and Baddesley near Tamworth.

92. Cuckoo. *Cuculus canorus*, Linn.

A common summer visitor all over the county. I have long been of opinion that the female cuckoo lays her eggs on the bare ground, from which she takes them in her beak and places them in the nests of other birds; and I have arrived at that conclusion from having repeatedly met with cuckoos' eggs, and also young cuckoos, in nests into which the cuckoo could not have deposited them by the ordinary process of laying. I believe that on one occasion I disturbed a bird of this species when in the act of laying an egg on the bare ground, or immediately after she had done so. Seeing a cuckoo flitting

about in a very odd manner on some bare ground at the foot of a large grass-grown heap of earth in the middle of a pasture field, I watched the actions of the bird for a little time until it had settled down on one side of the heap, and then approached it quite closely from the opposite side of the heap, when it flew off in great hurry and alarm, leaving behind it an egg, which was broken and the contents were escaping from the shell. I believe that I surprised a female cuckoo when laying her egg on the bare ground preparatory to conveying it to the nest of some foster parent.

93. White or Barn-Owl. *Strix flammea*, Linn.

The time is not very distant when this beautiful and useful bird will have to be reported as rare in the county, for it is yearly becoming less common. In the winter of 1898-9 a rather remarkable variety of the barn-owl, which had been taken near Stratford-on-Avon, was brought to Mr. Quatremayne for preservation. It was what has been called an eastern owl, small, very pale in colour, and without the usual yellowish buff either above or below.

94. Long-eared Owl. *Asio otus* (Linn.)

Resident and not rare, though not common. As in other counties it much affects woods in which there are pines or other evergreen trees, in the foliage of which it conceals itself by day.

95. Short-eared Owl. *Asio accipitrinus* (Pallas)

An autumn migrant, appearing in some seasons not uncommonly, though never numerously.

96. Tawny Owl. *Syrnium aluco* (Linn.)

Since the barn-owl has become less common the present species is certainly the most abundant owl in Warwickshire. It is a much more watchful bird than that species, and has a way of concealing itself in woods, especially if they contain evergreen trees.

97. Marsh-Harrier. *Circus aeruginosus* (Linn.)

Some years ago two of these birds were taken by the keeper in the park at Warwick Castle, and having been preserved by John Spicer of Warwick were afterwards seen by the present writer in the castle. The Warwick Museum contains one taken at Stoneleigh Abbey. All three are in immature plumage. A fourth Warwickshire specimen is mentioned by Mr. Chase as having occurred at Elford near Tamworth.

BIRDS

98. Hen-Harrier. *Circus cyaneus* (Linn.)

Formerly not rare but now almost unknown in the county. An adult male shot near Alcester in 1850 is now in the writer's collection, and there is one in the Worcester Museum in similar plumage from the same locality. These are probably the ones referred to by Mr. Chase in his list of the birds of the district around Birmingham, dated 1886. The latest record is of one, a female, shot in the eighties on the estate of Mr. J. R. West, near Stratford-on-Avon, and brought to Mr. G. Quatremayne of that town for preservation.

99. Montagu's Harrier. *Circus cineraceus* (Montagu)

An adult male was shot at Sutton Coldfield in the winter of 1839-40 and brought to John Spicer of Warwick, where it was seen by the present writer and secured for his collection. It is an unusually dark-coloured example. Sutton Coldfield in former times, when less frequented than at present, was a locality for many rare species of birds.

100. Buzzard. *Buteo vulgaris*, Leach.

The buzzard can only now be admitted into the Warwickshire list as a straggler, although even formerly it was not very rare. The Rev. W. T. Bree, advanced in years thirty or forty years ago, spoke of the nesting of the buzzard at Allesley near Coventry; and an old keeper remembered taking the eggs in a wild wooded place known as Snitterfield Bushes, between Warwick and Stratford-on-Avon. Waverley Wood near Stonleigh was also at one time a haunt of the buzzard, as were the woods near Alcester, on the estates of the Marquis of Hertford and the Throckmorton family. The most recent occurrences of the buzzard were in 1871, when one was shot at Ilmington, and in 1877 when one was trapped at Bishopton near Stratford-on-Avon. The last on record was trapped in December, 1887, at Ragley, the seat of the Marquis of Hertford. Mr. Chase mentions two localities where the buzzard had been observed, Alcester and Sutton Coldfield.

101. Rough-legged Buzzard. *Buteo lagopus* (Gmelin)

There are several instances on record of the appearance of this bird in the county. In the autumn of 1845 one was taken at Edstone near Stratford-on-Avon; one at Charlcote in the spring of 1881; and a third at Oldpark, Warwick, in March, 1882. In the early part of the winter of 1891 one was shot at Ettington near Stratford; and

more recently, namely in 1897, a bird of this species was killed at Ragley near Alcester. It has been twice noted at Coleshill as stated by Mr. Chase.

102. White-tailed Eagle. *Haliaetus albicilla* (Linn.)

An immature and very spotted example of this bird was trapped at a place called Knavenhill, on the estate of Mr. J. R. West, a few miles south-east of Stratford-on-Avon, on 22 November, 1879, and is now preserved in the mansion at Alscot. A second was seen at the same time which was not taken.

103. Sparrow-Hawk. *Accipiter nisus* (Linn.)

A resident species, which though still common is by no means abundant. An old nest of a crow or magpie, or even of a wood-pigeon, is almost always chosen as a foundation for its nest, and in every instance which has come within the observation of the writer there has been a complete superstructure added by the hawk.

104. Kite. *Milvus icinus*, Savigny.

The late veteran Warwickshire ornithologist, the Rev. W. T. Bree of Allesley, many years ago informed the writer that he remembered the kite nesting in some tall elms near Allesley, but that it had long before that time ceased to do so, and was no longer even seen. In the autumn of 1848 a kite was taken on the estate of Lord Leigh at Stonleigh Abbey, which is now in the Warwick Museum. In the following year another was shot near the same spot, which coming into the hands of John Spicer of Warwick passed into the collection of the present writer. A later record is that of one killed at Alscot, the residence of Mr. J. R. West, on 16 February, 1884. That the kite 'has occurred near Tamworth,' on the authority of Mr. Chase, is the only traceable record of this bird in the north of the county.

105. Honey-Buzzard. *Pernis apivorus* (Linn.)

In the Warwick Museum are six specimens of the honey-buzzard, all taken in the county. According to the statements of the keeper on the estate of Lord Leigh at Stonleigh one pair of these was shot in Bericot Wood. A second pair was shot while engaged in building a nest in Waverley Wood on the same estate, on 12 June, 1841. The two pairs above mentioned have been most carefully examined by the writer, but owing to the absence of accurate labels neither the pairs nor the sexes can be determined. There is a notice of them by Mr. J. P. Wilmot

A HISTORY OF WARWICKSHIRE

in the second volume of the *Zoologist*. The fifth specimen was killed at Moreton Morrel near Warwick and the sixth was shot at Radford near Leamington. In the spring of 1860 a honey-buzzard was taken by the gamekeeper in the park at Warwick Castle, and on 26 September, 1876, one was shot near Kenilworth. The latest occurrence of this bird seems to have been in the summer of 1894, when one was caught in a jay-trap at Ragley. Mr. J. Steele Elliott records the capture of one at Little Aston on 16 June, 1891.

106. Peregrine Falcon. *Falco peregrinus*, Tunstall.

A somewhat rare and irregular winter visitor to the county, feeding on partridges, lapwings, moorhens and ring-doves. It is not however so rare as to require detailed mention of appearances, which are recorded from most parts of the county.

107. Hobby. *Falco subbuteo*, Linn.

Formerly not uncommon as a summer migrant in the valley of the Avon, but much less frequent of late years, the falling off in number apparently corresponding with the great diminution in the supply of swallows. A pair of hobbies built a nest in the old nest of a crow or magpie in Snitterfield Bushes, a large cover in the village of Snitterfield, in the summer of 1850; and in September, 1846, a young bird was taken in the park at Ragley, the seat of the Marquis of Hertford.

108. Merlin. *Falco æsalon*, Tunstall.

A strictly migratory species, appearing only in the autumn, winter, or early spring. Once only has the writer met with it in summer, but the specimen though adult was in such a wretched condition that it could have been merely an accidental visitor. Larks are to some extent the food of the merlin, and the following story shows the persistency with which it follows its prey. A man thrashing in a barn had opened the upper half of the barn doors on each side of the building for the admission of fresh air, when just as the flail was at the top of its swing he felt it touch something over his head, and a lark, nearly smashed by a blow, fell on to the floor. In attempting to escape from a merlin it flew in at the open door and was struck by the flail, while the hawk passed through the barn unhurt.

109. Kestrel. *Falco tinnunculus*, Linn.

Though still a common resident the kestrel is less abundant than formerly. It is not so often seen hanging in the air or passing leisurely overhead and perching, a conspicuous object, on the

very top of some tree. Its habit of flight is very unlike that of the sparrow-hawk, which dashes past quite low down and rising up alights in the middle of the tree, never on the top of it. The food of the kestrel consists almost wholly of small mammals, as may be seen by the contents of the castings under a roosting-place after they have been disintegrated by the rains of winter.

110. Osprey. *Pandion haliaëtus* (Linn.)

Five occurrences of the osprey in Warwickshire have come to the knowledge of the writer. One preserved in the museum at Warwick was taken in the park at the castle; another in the same collection was shot at Umberslade. A third was shot over the Avon at St. Nicholas's meadow, Warwick, and is in the writer's collection. The fourth was also shot on the Avon at a place known as Binton Bridges, between the counties of Warwick and Gloucester, in January, 1865, which came into the hands of the writer and proved to be a female. Mr. Peter Spicer of Leamington received an osprey which had been shot at Packington on 26 August, 1887, and a bird of this species was seen by Mr. Steele Elliott at Sutton Coldfield on 30 September, 1890.

111. Cormorant. *Phalacrocorax carbo* (Linn.).

A storm-driven visitor to most parts of the county, but of infrequent occurrence and generally, perhaps always, in immature plumage.

112. Shag or Green Cormorant. *Phalacrocorax graculus* (Linn.)

Like the last species an uncertain storm-driven wanderer, and when found generally in a state of exhaustion.

113. Gannet or Solan Goose. *Sula bassana* (Linn.)

Another wanderer brought inland by stress of weather. An adult gannet was shot some years ago near Warwick and is now in the museum there. Another was found exhausted in the middle of a large arable field at Milcote near Stratford-on-Avon. Mr. Chase records the occurrence of one which was taken in a field of potatoes near Tamworth.

114. Common Heron. *Ardea cinerea*, Linn.

There are at present but few heronries in Warwickshire. The one at Warwick Castle has either ceased to be or is greatly reduced in size. A small one yet remains at Ragley, the seat of the Marquis of Hertford. The mischief done by the heron where fish are

BIRDS

preserved is the main cause of the destruction of the heronries.

115. Little Egret. *Ardea garzetta*, Linn.

This is recognized as a Warwickshire bird on the authority of Mr. W. C. Cristie, who in the ninth volume of the *Magazine of Natural History* (1836), records the occurrence of one which was shot at Sutton Coldfield. Three specimens are indeed mentioned in that communication as having been shot there. To that statement I may now add that all three were taken at different, but not widely separated times to John Spicer of Warwick for preservation, where they were seen by Dr. Lloyd of Warwick, who was then interested in the formation of the museum there, and wished to secure them for the collection. He however failed to do so, and subsequent inquiries made by him in conjunction with the present writer as to their whereabouts were without result.

116. Little Bittern. *Ardetta minuta* (Linn.)

An immature bird of this species was shot between Warwick and Stratford some years since and brought to the latter town for preservation, where it was seen by the writer. There is also a notice in the ninth volume of the *Magazine of Natural History* (1836) of one which was shot at Sutton Coldfield.

117. Bittern. *Botaurus stellaris* (Linn.)

A rare visitor to the Avon and other rivers, but formerly much more common, especially in severe winters. A considerable number have been noted from time to time at Sutton Coldfield and recorded by Mr. Chase and Mr. Steele Elliott.

118. Grey Lag-Goose. *Anser cinereus*, Meyer.

Formerly an occasional visitor, but now unknown to the county.

119. White-fronted Goose. *Anser albifrons* (Scopoli)

A straggler only to the county.

120. Bean-Goose. *Anser segetum* (Gmelin)

Formerly when flights of wild geese periodically passed over from east to west, or the reverse, single birds not infrequently dropped out of the flights and alighted, generally in the middle of some large field, and after a rest renewed their journey. Individuals of this species were most frequently known to have done so.

121. Pink-footed Goose. *Anser brachyrhynchus*, Baillon.

Like the last named this species was much

more common formerly than at the present time. It must be now regarded as of very rare occurrence in the county.

122. Barnacle - Goose. *Bernicla leucopsis* (Bechstein)

Of very uncertain appearance, indeed a mere straggler.

123. Brent Goose. *Bernicla brenta* (Pallas)

Like the last of very uncertain occurrence, but has been noted at several localities in the county.

The *Canada Goose* has been shot several times in Warwickshire, once on the large pool at Chesterton on the estate of Lord Willoughby de Broke. The *Egyptian Goose* has also been obtained, but neither has any substantial claim to a place amongst British birds.

124. Whooper Swan. *Cygnus musicus*, Bechstein.

Occasionally small flights of this bird have appeared on the Avon in severe winters, though very rarely. In the winter of 1894-5 six or seven frequented that river near Bidford for more than a week.

125. Common Sheld-Duck. *Tadorna cornuta* (S. G. Gmelin)

Appears only as a straggler, and most of the examples examined have proved to be immature. Mr. Chase however says 'a magnificent male was shot at Hawksbury near Coventry in 1881.'

[Ruddy Sheld-Duck. *Tadorna casarca* (Linn.)

Mr. Chase mentions two occurrences of this bird in the Birmingham district, namely at Neckells and at Yardley Wood, but suggests that they were escaped birds.]

126. Mallard or Wild Duck. *Anas boschas*, Linn.

Resident and breeding where protected.

[Gadwall. *Anas strepera*, Linn.

Very rare, and doubtfully a Warwickshire bird. One was met with at Lichfield in December, 1881.]

127. Shoveler. *Spatula clypeata* (Linn.)

An uncertain winter visitor, but single birds sometimes appear on the Avon and the other streams. One was shot at Sutton Coldfield in 1867.

128. Pintail. *Dafila acuta* (Linn.)

An occasional winter visitor.

A HISTORY OF WARWICKSHIRE

129. Teal. *Nettion crecca* (Linn.)

Of not infrequent appearance as an autumn and winter visitor, sometimes appearing in considerable flights, but remaining only for a short time. It is reported to have bred in Sutton Coldfield Park, where it is abundant in the winter.

130. Garganey. *Querquedula circia* (Linn.)

A rare spring migrant. Three or four occurrences only are known to the writer.

131. Wigeon. *Mareca penelope* (Linn.)

Immature birds, appearing either singly or in small flights, are not infrequent on our streams in winter. In the early spring adult individuals occur, but only on passage, and have never been known to breed.

132. Pochard. *Fuligula ferina* (Linn.)

Like the wigeon this is a winter visitor only, and in small numbers. It has appeared on the Avon and Tame, as well as on private waters.

133. Tufted Duck. *Fuligula cristata* (Leach)

Immature examples are not infrequent in winter on our streams, but adult individuals are very rare.

134. Scaup-Duck. *Fuligula marila* (Linn.)

Less frequently seen on inland waters than the pochard or tufted duck; only a straggler, and generally in immature plumage.

135. Goldeneye. *Clangula glaucion* (Linn.)

Immature or female birds of this species are not very rare in winter, and have been shot on the Avon and Tame, and on other waters, but adult males are of extremely rare occurrence.

136. Common Scoter. *Ædemia nigra* (Linn.)

Of very rare occurrence on our inland waters. In three instances only during a long period has the writer met with it in Warwickshire, twice on the Avon, and once on the sheet of water in the park at Ragley. It has however occurred at Sutton Coldfield.

137. Surf-Scoter. *Ædemia perspicillata* (Linn.)

A specimen of this rare bird which was shot on the Avon a few miles down stream from Stratford was brought to H. Coombs of that town some years since for preservation, where it was seen and secured by the present writer. It is an adult male in full black plumage with the characteristic white markings on the neck.

138. Goosander. *Mergus merganser*, Linn.

Although not of frequent occurrence it is

certainly not very rare in the county in the winter. It is however a very uncertain visitor.

139. Red-breasted Merganser. *Mergus serrator*, Linn.

Very rare in Warwickshire, one example only having come to the knowledge of the writer during a long period, which was an immature male shot in the Avon. Mr. Chase reports it to be of equal rarity in the district around Birmingham, and Mr. Steele Elliott quotes one instance of its occurrence at Sutton Coldfield.

140. Smew. *Mergus albellus*, Linn.

Has occurred once in the county, namely as Elford near Tamworth.

141. Ring-Dove or Wood-Pigeon. *Columba palumbus*, Linn.

Locally, Quice.

A common resident. It feeds very freely in summer on the leaves of young field peas, turnips, or clover, often to the serious injury of the crop. Later on, namely at harvest, the pods of the peas are attacked and their contents consumed. In the autumn the quice visits oak trees to feed on the acorns, always taking by preference those trees which bear the smallest acorns. A good deal of green stuff, such as turnip tops and field cabbage, is eaten in the winter, as also are the berries of the ivy.

142. Stock-Dove. *Columba œnas*, Linn.

A much less abundant bird than the quice, but sometimes associating with it in winter. The nest is generally in holes in trees, and occasionally on the crown of a pollard withy.

143. Turtle-Dove. *Turtur communis*, Selby.

Sixty years ago this was a rare bird in Warwickshire, but it is now common as a summer migrant, the increase having been gradual and not by a sudden immigration. It seems to affect the low-lying fertile lands rather than the higher and more sterile ones. It is reported to appear in considerable numbers in the north of the county and to breed there.

144. Pallas's Sand-Grouse. *Syrrhaptes paradoxus* (Pallas)

In July, 1888, a flock consisting of nine individuals of this bird alighted in a clover field near Kineton, and were seen to be feeding, as was supposed, on the leaves of the clover. One was shot and taken into Stratford-on-Avon for preservation, where it was seen and examined by the writer, into whose col-

BIRDS

lection it afterwards passed. It proved to be a female. About the same time one was shot, as was stated, at Edge Hill, which may have been one of the same flock and was brought to Mr. G. Quatremayne of Stratford for preservation. With the latter specimen, which was a male, several others were shot, which were plucked and eaten. In the *Zoologist* (1873, p. 3801) there is a record of the appearance of the sand-grouse at Swinfin near Tamworth.

145. Black Grouse. *Tetrao tetrix*, Linn.

Was formerly not very rare at Sutton Coldfield. A pair were shot there in October, 1871. It is now probably extinct.

146. Red Grouse. *Lagopus scoticus* (Latham)

Occurred formerly at Sutton Coldfield, but is no longer found there.

147. Pheasant. *Phasianus colchicus*, Linn.

Occurs where preserved.

148. Partridge. *Perdix cinerea*, Latham.

Its presence depends chiefly on its protection.

149. Red-legged Partridge. *Caccabis rufa* (Linn.)

Is rather local in its distribution, and does not appear to supersede the common partridge even under protection.

150. Quail. *Coturnix communis*, Bonnaterra.

A summer visitor, but though not rare the quail cannot be considered as otherwise than uncommon. It has occurred in most parts of the county, though only sparingly.

151. Corn-Crake or Land-Rail. *Crex pratensis*, Bechstein.

A summer visitor whose presence is known by its loud raking note. That note, once so common in the meadows bordering the Avon and its tributaries, is now much less frequently heard. Formerly the corn-crakes were numerous enough in the meadows for their voices to be heard apparently in rivalry, and their nests were often mown out in the hay season. They were never so abundant in the cultivated fields, but now they are not often heard in either meadow or cornfield, and the nest is rarely seen.

152. Spotted Crake. *Porzana maruetta* (Leach)

Though not absolutely rare in the county this species is by no means common. It is most frequent in the spring and autumn, but has occurred both in summer and mid-

winter. In the summer of 1848 one was caught by a cat in an osier bed under the walls of Warwick Castle, and came at once into the hands of the present writer. In January, 1860, one was shot on the Avon where it divides the counties of Warwick and Gloucester, a few miles down stream from Stratford. It is stated to have nested in Sutton Park in 1880.

153. Water-Rail. *Rallus aquaticus*, Linn.

A migratory bird in the county and common throughout the winter, but unknown in the summer.

154. Moor-Hen. *Gallinula chloropus* (Linn.)

A common resident which breeds freely in the county. If closely observed it will be seen retiring to roost with great punctuality towards nightfall into some bush or low tree, generally one overhanging the water of a river or pool, climbing up the branches which hang down into the water. The habit of ascending into trees even to a considerable height out of the way of danger is not uncommon with the moor-hen. When out shooting some years ago the present writer saw a moor-hen which was flushed by the dog fly directly up into the very top of a large oak, and there disappear from sight. Shortly afterwards a second was put up which was seen to drop directly into the old nest of a crow. A well directed shot at the bottom of the nest brought both the birds out in great haste, but apparently unhurt. The moor-hen will become very tame if not alarmed, and has been known to approach quite near to a dwelling and feed morning and evening with the poultry.

155. Coot. *Fulica atra*, Linn.

Common on ornamental or protected waters.

156. Little Bustard. *Otis tetrax*, Linn.

'Once at Thickbroom near Tamworth.'—Chase.

157. Stone-Curlew. *Ædicnemus scolopax* (S. G. Gmelin)

Two specimens of this bird which were killed in the valley of the Avon are in the possession of the writer. One was taken at Wilmcote near Stratford on 19 October, 1847, and the other shot on 1 January, 1853, on the border between the counties of Warwick and Gloucester near Weston-on-Avon.

[Dotterel. *Eudromias morinellus* (Linn.)

Has occurred at Perry Barr near Birmingham in 1882, and on Cannock Chase in 1875.]

A HISTORY OF WARWICKSHIRE

158. Ringed Plover. *Ægialitis biaticula* (Linn.)

An uncertain straggler appearing sometimes in the winter. Mr. T. Ground of Birmingham has a note of one at Haywood near that city. It has also occurred not uncommonly at Sutton Coldfield.

159. Golden Plover. *Gharadrius pluvialis*, Linn.

A winter visitor to the county, and not uncommon, usually associating with lapwings.

160. Lapwing. *Vanellus vulgaris*, Bechstein.

A common resident and breeding in many localities.

[Turnstone. *Strepsilas interpres* (Linn.)
'Very rare.'—Chase.]

161. Oyster-Catcher. *Hæmatopus ostralegus*, Linn.

A rare straggler which has appeared in many parts of the county. Mr. T. Ground has a note of one which was found in Broad Street, Birmingham, on 30 January, 1877.

162. Grey Phalarope. *Phalaropus fulicarius* (Linn.)

An uncertain visitor in winter, but in some seasons not very rare. It appeared in several localities in 1844, 1853, 1857 and 1886.

163. Red-necked Phalarope. *Phalaropus hyperboreus* (Linn.)

'Has occurred once at Tamworth.'—Chase.

164. Woodcock. *Scolopax rusticula*, Linn.

Common throughout winter in many places, and has bred in the woods near Alcester.

165. Great Snipe. *Gallinago major* (Gmelin)

According to Mr. Chase the great snipe has once occurred near Tamworth. It is also mentioned by Mr. Steele Elliott as having appeared at Sutton Coldfield in January, 1892, and November, 1894.

166. Common Snipe. *Gallinago cælestis* (Frenzel)

In the early part of the last century the snipe was abundant in many localities in the county. Snitterfield is said to have taken its name from the plentifulness of this bird in that neighbourhood. It is reported to have bred, though only sparingly, in the north of the county.

167. Jack Snipe. *Gallinago gallinula* (Linn.)

A common though not very abundant winter visitor.

168. Dunlin. *Tringa alpina*, Linn.

A very rare straggler inland. A few individuals have been met with in the valley of the Avon, and one is recorded as occurring at Small Heath near Birmingham. One which was shot on the Arrow near Alcester has the feathers of the back margined by rich chestnut, and the under parts partially spotted with black, as in the breeding season, but I have not the date of its appearance.

169. Ruff. *Machetes pugnax* (Linn.)

According to Mr. Chase this bird has once appeared at Sutton Coldfield.

170. Bartram's Sandpiper. *Bartramia longicauda* (Bechstein)

The first known example of this as a British bird was shot by the late Lord Willoughby de Broke on his estate at Compton Verney, Warwickshire, on 31 October, 1851. It was no doubt a passage bird which had alighted in the middle of a stubble field and permitted a near approach, as the writer was informed by Lord Willoughby himself. Compared with preserved skins from the United States, the Warwickshire specimen is paler in colour and the dark markings less distinct.

171. Common Sandpiper. *Totanus hypoleucus* (Linn.)

A regular spring migrant appearing on our streams for a short time only, and not known to breed. In the autumn there is another appearance, consisting chiefly of young birds.

172. Wood-Sandpiper. *Totanus glareola* (Gmelin)

Very rare. Mr. Chase records its appearance at the sewage farm near Birmingham.

173. Green Sandpiper. *Totanus ochropus* (Linn.)

Has occurred in many localities in the county, but must be reported as rare. It seems to frequent pools or any other retired place, rather than navigable streams or canals.

174. Redshank. *Totanus calidris* (Linn.)

The redshank is reported by Mr. Chase to have appeared at the sewage farm near Birmingham.

175. Greenshank. *Totanus canescens* (Gmelin)

A specimen in the writer's collection was shot out of a flock passing over the estate of Mr. J. R. West at Alscot near Stratford-on-Avon on 26 August, 1847. Mr. Chase mentions Castle Bromwich as a locality where it has occurred.

BIRDS

176. Common Curlew. *Numenius arquata* (Linn.)

An occasional winter visitor only, apparently halting for a time on its way across the country. Its well known whistle may not infrequently be heard in the night.

177. Black Tern. *Hydrochelidon nigra* (Linn.)

An uncertain though not very rare visitor to the streams of the county. On several occasions adult birds have been met with in the spring on the Avon at Warwick, Stratford, and Bidford, and on the Arrow at Alcester. In the autumn immature birds sometimes appear. It is reported to be not infrequent in the north part of the county in the spring and autumn.

178. White-winged Black Tern. *Hydrochelidon leucoptera* (Schinz)

One of these birds was shot while flying over the Avon near Welford on 8 May, 1884. The stream at that place divides the counties of Warwick and Gloucester. The specimen was in adult plumage, but the sex could not be determined.

179. Gull-billed Tern. *Sterna anglica*, Montagu.

A bird of this species was shot flying over the reservoir at Wormleighton on 24 April, 1876, and brought to Mr. Peter Spicer for preservation. From Mr. T. Ground I learn that a gull-billed tern occurred at Coleshill in 1899.

180. Sandwich Tern. *Sterna cantiaea*, Gmelin.

A sandwich tern was shot at Hampton in Arden in April, 1876, and brought to Mr. Peter Spicer of Leamington. Mr. Chase records this as an occasional autumn visitor, and says that it has occurred at Castle Bromwich.

181. Common Tern. *Sterna fluviatilis*, Naumann.

This is by no means a common bird in the county, but has often been confounded with the arctic tern, which is less rare on the spring migration. A pair of common terns in adult plumage were shot together over the Avon near Luddington on 18 August, 1841. Since that date a few others have appeared. Mr. Chase however speaks of it as being often observed around the city of Birmingham during spring and autumn migration.

182. Arctic Tern. *Sterna macrura*, Naumann.

More common than the last species in the spring and autumn migration. The great

flights which appeared on the Severn and Avon in May, 1842, extended up the latter river to its source. Most of the specimens brought to the bird stuffers in the autumn have been immature birds.

183. Little Tern. *Sterna minuta*, Linn.

A rare straggler on our streams, but it has been shot on the Avon as high up as Warwick.

184. Sabine's Gull. *Xema sabinii* (J. Sabine)

Mr. Chase says, 'Once occurred near Coleshill in October, 1883.'

185. Little Gull. *Larus minutus*, Pallas.

A specimen of this small gull was shot while flying over the Avon near Bidford and brought to Stratford for preservation, where the writer saw and examined it. The plumage was that of an immature bird.

186. Brown-headed Gull. *Larus ridibundus*, Linn.

The distance of this county from the sea, and the absence of a river estuary, must materially influence the appearance of many marine birds such as the gulls, and accordingly the records of their appearance are very meagre, and like all the others the present species is only known as a straggler, though immature examples are not of rare appearance in the autumn.

187. Common Gull. *Larus canus*, Linn.

An occasional wanderer only, but sometimes staying in the open fields and feeding on earthworms.

188. Herring-Gull. *Larus argentatus*, Gmelin.

Like the last only an uncertain visitor, though adult as well as immature birds have been observed.

189. Lesser Black-backed Gull. *Larus fuscus*, Linn.

An uncommon straggler, which has however been observed at many places in the county, including the north, as noticed by Mr. Chase.

190. Great Black-backed Gull. *Larus marinus*, Linn.

Of rare occurrence. It seldom makes a halt in its flight across this county. An example is reported to have been taken at Shustoke.

[Pomatorhine Skua. *Stercorarius pomatorhinus* (Temminck)]

Reported by Mr. Chase as very rare in the Birmingham district.]

A HISTORY OF WARWICKSHIRE

191. Arctic Skua. *Stercorarius crepidatus* (Gmelin)

A bird of this species was taken near Birmingham in October, 1897, as I learn from Mr. T. Ground.

[Long-tailed or Buffon's Skua. *Stercorarius parasiticus* (Linn.)

An immature bird of this species was shot on the Lichfield racecourse in October, 1874, and recorded by Mr. Chase.]

192. Razorbill. *Alca torda*, Linn.

Specimens of this bird have at various times been brought to Warwick and Stratford for preservation, where they have been seen by the present writer.

193. Guillemot. *Uria troile* (Linn.)

When it appears it is a waif and stray driven inland by heavy gales. The writer has seen one which was shot from the roof of a thatched cottage in the south-eastern side of the county.

194. Little Auk. *Mergulus alle* (Linn.)

This also has several times been found in the county as a storm-driven bird, either in an exhausted state or dead. All examined by the writer have been in winter plumage excepting one, which was taken up dead at Great Alne near Alcester in the spring a good many years ago, which was in full summer dress.

195. Puffin. *Fratercula arctica* (Linn.)

Found only after strong gales from the Bristol Channel, and generally in the autumn. All the examples examined have been young birds.

196. Great Northern Diver. *Colymbus glacialis*, Linn.

A rare visitor to the streams of the county, two only having come to the knowledge of the writer during a period of half a century. One of them was shot in the Avon at Alveston near Stratford and is now in the Warwick Museum. Mr. Chase records the occurrence of one at Tipton on 8 January, 1877.

197. Red-throated Diver. *Colymbus septentrionalis*, Linn.

Though uncommon this is not a very rare bird in the valley of the Avon, but nearly all the examples seen have been immature and appeared in the autumn or winter. One only in adult plumage is on record. It was taken up in a state of great exhaustion in Loxley Lane near Stratford-on-Avon in November, 1858.

198. Great Crested Grebe. *Podiceps cristatus* (Linn.)

An uncommon almost rare bird in the county, occurring occasionally in the winter on the Avon. A pair which had commenced building a nest at Napton in May, 1881, were both ruthlessly shot. It has several times been known to breed at Sutton Coldfield.

199. Red-necked Grebe. *Podiceps griseigena* (Boddaert)

There are several records of the appearance of this species on the Avon, in all instances in the winter.

200. Slavonian Grebe. *Podiceps auritus* (Linn.)

An autumn and winter visitor to the county, but has on one occasion appeared in summer. A pair in full breeding plumage were shot together on some ornamental water at Wootton Hall near Henley in Arden, and brought to John Spicer of Warwick some years since, when they were examined by the writer. Doubtless if spared they would have bred there. It has also been met with in several other localities in the county.

201. Eared Grebe. *Podiceps nigricollis* (Brehm)

Of rare occurrence in the county, though it has been shot on the Avon in a few instances in winter. One in full summer plumage was however shot on the ornamental water at Wootton Hall near Henley in Arden a few years since, which having been taken to John Spicer of Warwick for preservation came under the observation of the present writer.

202. Little Grebe or Dabchick. *Podiceps fluviatilis* (Tunstall)

Common though not abundant in winter on all streams and ponds, and but little known in summer; there is no record of its having bred in the county. A very immature specimen was however shot on the Arrow near Alcester some years ago.

203. Storm-Petrel. *Procellaria pelagica*, Linn.

A waif and stray of rare occurrence, but yet when seen has always been on the wing and not in an exhausted state. One was shot while flying about at Wormleighton on 15 August, 1885, and taken to Mr. Peter Spicer of Leamington for preservation. Another was also shot near Alcester in the winter of 1882-3 and sent to Mr. Hunt of that town to be preserved. According to Mr. Chase it has occurred several times in the Birmingham district.

BIRDS

204. Leach's Fork-tailed Petrel. *Oceanodroma leucorhoa* (Vieillot)

This, like the storm-petrel, only occurs as a storm-driven straggler, but certainly much more frequently inland than that species. In every instance which has come to the knowledge of the writer the bird has been taken up dead or too much exhausted to make any attempt at escape. About a dozen specimens examined by the writer have been found in the valley of the Avon, some of which were in Warwickshire. A bird of this species was picked up dead on 4 September, 1883, in a yard in Guildford Street, Birmingham.

205. Manx Shearwater. *Puffinus anglorum* (Temminck)

Occasionally a shearwater of this species is found on the ground and unable to rise after a strong gale from the Bristol Channel. One was taken up alive and unhurt in a field of wheat, then in shuck, near Stratford-on-Avon in the fourth week in August, 1888. It was brought to the writer on the following day, and proved to be a male in fine plumage. Another was taken up in Chandos Road, Birmingham, on 5 September, 1880, as is recorded by Mr. Chase.

MAMMALS

As in the case of the birds, the physical features of a county determine to a great extent the number and distribution of its mammals. For the continued presence of the larger mammals there must be quiet retreats in plenty such as a forest or moorland offers ; there must be also the attractions of the pasture-land and the lake. These features in Warwickshire, with its broad cultivated lands, are not sufficiently well marked, and the badger, of the larger mammals, finds it difficult to exist, if it has not already disappeared from our borders. The otter, however, though by no means common, still clings to the Avon, and it is a pleasure to report that it has even become rather more frequent between Evesham and Stratford since the navigation between these places has ceased. Brought into our county from the warehouses of Gloucester and Bristol on board the grain laden vessels which came up the Avon, the old English black rat was reintroduced about forty or fifty years ago, but has again become rare, perhaps extinct. In the distribution of the smaller mammals the Avon also has considerable influence. The meadows about its banks are the haunts of such species as the water shrew and the field and bank voles, and the water vole abounds in the river itself. Of the *Cervidæ*, or deer, little need be said, as the natural characteristics of the county in no way affect their existence, for they continue under protection only in the parks where they have been introduced and beyond their mere mention need claim no more of our attention than the cattle in the pastures.

A great many years spent amongst the vertebrates of the valley of the Avon more or less in connection with the Warwickshire Naturalists' Field Club, and a long connection also with the museum in the county town, has made the writer acquainted with a great number of the species, and enabled him to contribute in no inconsiderable degree to the second edition of Bell's *British Quadrupeds*. With the species in the north end of the county he is much less intimately acquainted, but the deficiency of information is fortunately made up by other observers who have made public the results of their observations. The following may be specially mentioned as supplying valuable information :—

A Handbook of Birmingham, prepared for the members of the British Association in 1886. The parts relating to the mammals and reptiles around Birmingham was written by Mr. E. de Hamel, what relates to the birds was supplied by Mr. R. W. Chase, while the account of the fishes was the work of Mr. G. Sherrieff Tye. The whole was under the editorship of Mr. W. R. Hughes, F.L.S., and took in an area of twenty

MAMMALS

miles around Birmingham and consequently a considerable area in Warwickshire.

Subsequently to the appearance of the above Mr. J. Steele Elliott printed a *Vertebrate Fauna of Sutton Coldfield Park*, which is of great interest, the locality, it may be observed, being quite a classical one with the zoologists of the midland counties. For the use of a copy of that work the writer is indebted to the kindness of Mr. J. Steele Elliott himself.

CHEIROPTERA

1. Lesser Horse-shoe Bat. *Rhinolophus hipposiderus*, Bechstein.

This is a local rather than a rare species. The writer has seen it in considerable numbers in its diurnal retreats in the roof of the mansion at Ragley, and in smaller numbers near Stratford and Warwick, always in buildings, either singly or in numbers.

In no instance has the greater horse-shoe bat been noted as occurring in Warwickshire, though it is reported in the *Fauna and Flora of Gloucester* as occurring in that county.

2. Long-eared Bat. *Plecotus auritus*, Linn.

A common though not very numerous bat which frequents a great many localities in the county, and, whether when feeding after nightfall or in its diurnal retreat, appears to be solitary, though several are occasionally found near together. It takes its food, as the writer can affirm from personal observation, both on the wing and when at rest. It hovers in front of foliage and takes the insects which are resting on the leaves.

3. Barbastelle. *Barbastella barbastellus*, Schreber.

Bell—*Barbastellus daubentonii*.

A solitary and by no means common species, which frequents several, perhaps many, localities in the county. The writer has obtained it at Alcester and also at Wel-ford and Weston on the Avon, which although in Gloucestershire are only removed from Warwickshire by two or three hundred paces. It has also been found in or near the town of Warwick. The place of retirement for the day is very varied, indeed almost any hole or crack, either in a building or tree, is suitable.

4. Great or White's Bat. *Pipistrellus noctula*, Schreber.

Bell—*Scotophilus noctula*.

White—*Vespertilio altivolans*.

A common species in the valley of the Avon and indeed throughout the county,

feeding largely on the cockchafer in the early part of the summer and other large species of Coleoptera at a later period. The crushing of their hard elytra in the process of mastication may be very distinctly heard on those evenings when the flight is not too high up. During the day this bat retires to holes in trees.

5. Pipistrelle. *Pipistrellus pipistrellus*, Schreber.
Bell—*Scotophilus pipistrellus*.

A common but solitary species frequenting buildings and flitting to and fro in any sheltered spot, either among the stems of trees or buildings, but never, so far as the writer has observed, amongst foliage. Any hole will serve its turn as a place of rest for the day, whether in a tree or building.

6. Natterer's Bat. *Myotis nattereri*, Kuhl.

Bell—*Vespertilio nattereri*.

A thoroughly gregarious species, at least so far as its diurnal retreat is concerned. Very local in its distribution, the only places in the county where it has been observed by the writer being at Arrow, near Alcester, where some years since there was quite a large colony in the roof of the church, and at Temple Grafton. At the latter place it was shot while on the wing in the evening, and a considerable number were noticed.

7. Daubenton's Bat. *Myotis daubentoni*, Leisler.

Bell—*Vespertilio daubentonii*.

Common and frequenting water, especially that which is stagnant, close to the surface of which it flits; but as it comes abroad rather late it is not easily observed. The writer has seen it on the Avon in many places in the county, as at Warwick, where it was numerous beneath and near the arches of the bridge as well as in close proximity to the castle; also over the stagnant water near the railway station, formerly in the grounds of the priory. At Stratford it occurs in considerable numbers, reposing during the day in the tower of the church, and at Bidford and Binton. It

A HISTORY OF WARWICKSHIRE

was equally common at one time over the large fishponds at Coughton Court near Alcester. Mr. J. Steele Elliott records its occurrence at Sutton Coldfield.

8. Whiskered Bat. *Myotis mystacinus*,
Leisler.

Bell—*Vespertilio mystacinus*.

Common and frequenting the foliage of

tall trees, which it penetrates through and through in pursuit of insects, which appear to be taken while resting on the leaves. Its flight in the intricacies of foliage is remarkably quivering, and unlike that of any other British bat. So far as the writer has observed it returns to rest and to hybernate in buildings rather than trees, indeed he has never met with it in the latter situation.

INSECTIVORA

9. Hedgehog. *Erinaceus europæus*, Linn.

The hedgehog is too well known in the county to require special observation. It might however be mentioned that one kept as a pet and which was very docile had a very decided liking for hens' eggs, and would consume those which were in the very last stage of decay with as much relish as fresh ones.

10. Mole. *Talpa europæa*, Linn.

The abundance or the reverse of the mole in any district depends entirely on the assiduity of the mole-catcher. There is no doubt however that with the decadence of agriculture it has materially increased, and in many places is now abundant, as may be seen from the number of hills it throws up.

11. Common Shrew. *Sorex araneus*,
Linn.

A common and generally distributed species, which varies much in colour, the upper parts being sometimes nearly black.

12. Pigmy Shrew. *Sorex minutus*, Pallas.

Bell—*Sorex pygmaeus*.

Much less abundant than the common shrew, to which it bears considerable resemblance, except in size and in being always of a lighter colour. It appears to be very local in its distribution, indeed the writer has met with it only in the valley of the Avon.

13. Water Shrew. *Neomys fodiens*, Pallas.

Bell—*Crossopus fodiens*.

Not rare in the valley of the Avon, where it frequents the low lying meadows. It is also found in the wet ditches and rills of the higher ground, subsisting on small crustaceans, which are abundant in such places. It will also feed on the dead body of an animal or bird, as the writer has determined from personal observation.

The so-called oared shrew is a variety only of the water shrew, in the summer or seasonal dress of that species. In the winter the contrast between the black colour of the back and the white of the under parts becomes again clearly defined.

CARNIVORA

14. Fox. *Vulpes vulpes*, Linn.

Bell—*Vulpes vulgaris*.

An animal which is common or rare according as it is preserved for hunting or destroyed as vermin.

15. Polecat. *Putorius putorius*, Linn.

Bell—*Mustela putorius*.

Formerly not rare in the county, though it had become uncommon so long as half a century since. It is very doubtful whether it now occurs, as there is no recent and well authenticated instance of its appearance. Some so-called polecats which the writer has seen were undoubtedly brown ferrets which had escaped, and closely resembled polecats.

16. Stoat. *Putorius ermineus*, Linn.

Bell—*Mustela erminea*.

Though less abundant than the weasel,

the stoat is common and generally distributed. It is a bold and wild creature with a good deal of dash, and when hunted by dogs will take across country, keeping however as much as possible within cover and out of sight. Occasionally, when it has become white and is very conspicuous, it may be seen to pass through hedge and over ditch for two or three fields length without check or hesitation. The stoat is also an adroit climber, and will ascend the upright bole of a tree to reach the nests of birds almost after the manner of a squirrel.

17. Weasel. *Putorius nivalis*, Linn.

Bell—*Mustela vulgaris*.

Common and generally distributed, feeding chiefly on field mice and voles, and also on young rabbits and birds. There is some

MAMMALS

doubt whether it preys on shrews, but that it destroys a great many nests of ground building birds is without doubt; and that it follows moles in their subterranean runs is obvious from its being sometimes caught in the mole trap.

18. Badger. *Meles meles*, Linn.

Bell—*Meles taxus*.

An uncommon animal, which owes its very existence to its fossorial habits. Were it not gifted with great capabilities of excavating it would long since have disappeared from the cultivated parts of the county, in-

deed probably it has become extinct in nearly all parts.

19. Otter. *Lutra lutra*, Linn.

Bell—*Lutra vulgaris*.

Not so rare in the streams of Warwickshire as formerly when the upper Avon was a navigable stream. It cannot now be mentioned as by any means abundant, but has certainly become more common since the navigation has been superseded by railways. A creature of the size of the otter is never likely to be plentiful in a stream passing through a cultivated district.

RODENTIA

20. Squirrel. *Sciurus leucourus*, Kerr.

Bell—*Sciurus vulgaris*.

Common in all considerable woods. It is accused by keepers and woodmen of destroying the eggs and young of many tree building birds.

[Dormouse. *Muscardinus avellanarius*, Linn.

The dormouse has been said to occur in the county, though the writer has never met with it, and it is not included by Mr. J. Steele Elliott in his list of the mammals of Sutton Coldfield.]

21. Brown Rat. *Mus decumanus*, Pallas.

An abundant pest of nasty habits, but easily tamed even when not in captivity. Aged males often become solitary in their habits and develop cannibal propensities.

22. Black Rat. *Mus rattus*, Linn.

A few years since the black rat was by no means rare in several localities in the county, all more or less near to the Avon; and it was supposed that it was introduced by barges laden with grain up that stream from Gloucester and Bristol. That was probably the case, as since the navigation of the Avon has ceased the black rats have not been observed. It is still said to frequent some of the Bristol warehouses.

23. House Mouse. *Mus musculus*, Linn.

Too abundant and too great a pest to require further mention.

24. Long-tailed Field Mouse. *Mus sylvaticus*, Linn.

Common and frequenting the open fields. It is one of the prettiest of our mammals, and may be very easily tamed.

25. Harvest Mouse. *Mus minutus*, Pallas.

So far as the observations of the present

writer go, this small creature is found only in the southern and western parts of the county and is unknown in the north. It is more common in the valley of the Avon than elsewhere, preferring the lower and more fertile tracts.

26. Water Vole. *Microtus amphibius*, Linn.

Bell—*Arvicola amphibius*.

Common wherever there is water, whether in river, brook, pond, or even ditch. Aquatic plants constitute the chief food, such as the succulent bottom part of the large bulrush and duckweed. When feeding on the latter the animal sits on its hind legs in the manner of a dormouse or squirrel, and conveys the weed to the mouth by the two paws, only the green leafy part being eaten. When hard pressed for food, more especially during floods, the bark of bushes and trees is eaten.

27. Field Vole. *Microtus agrestis*, Linn.

A common and sleepy looking animal having very little intelligence, as any one keeping it in captivity will very soon observe. Sometimes, after severe winters, large ornamental masses of ivy on walls or other buildings will be seen in the spring to have dead branches, which on examination will be found to have been barked by mice. It is the present species, the writer believes, which must be credited with the mischief.

28. Bank Vole. *Evotomys glareolus*, Schreber.

A less abundant species than the last named, but yet not rare. Its habits are very similar to those of the field vole, but it is a much more lively creature, while its brighter colour and less obese form add greatly to its general appearance. This and the last species, as well as the harvest mouse, the long-tailed field mouse, and the three species of shrews, were much more frequently met with before the

A HISTORY OF WARWICKSHIRE

introduction of reaping and mowing machines than they have been since. The sickle and scythe left stubble in the fields, which being gathered into cocks late in the autumn afforded a comfortable retreat for all those small mammals; but the reaping machines having done away with the stubble they are now less frequently seen.

29. Common Hare. *Lepus europæus*, Pallas.

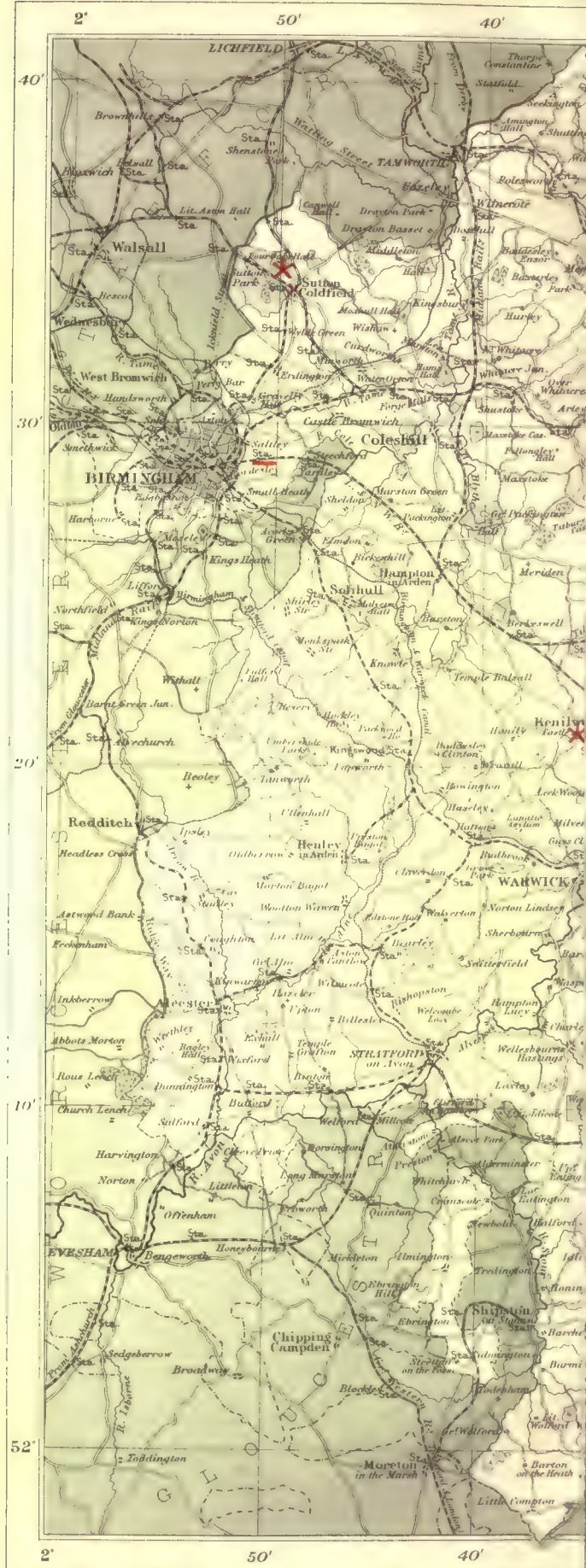
Bell—*Lepus timidus*.

Unless steps are taken to preserve the hare

it will at no distant time become extinct. It is even questionable whether under the operation of the Ground Game Act preservation as ordinarily understood will be found sufficient to prevent extinction.

30. Rabbit. *Lepus cuniculus*, Linn.

There seems no danger of this creature becoming extinct or even scarce. Its great fertility and its burrowing habits will successfully operate to keep up its numbers with very little protection.



The Edinburgh Geographical Institute



EARLY MAN

THE prehistoric antiquities found in Warwickshire can hardly be said to equal in number or importance those which have been discovered in many of the other English counties. But this perhaps may be attributed partly to the fact that they have not been so carefully and persistently searched for here as elsewhere. It is to be regretted moreover that of those antiquities which have been found few with anything like a clear or intelligible pedigree are now accessible.

Dugdale notices a few discoveries of neolithic and bronze age objects,¹ and several collectors in more recent times have brought together a number of antiquities which, if accompanied by precise records of the locality and circumstances of each discovery, would be of great value in determining the story of early man in the county. Unfortunately these precise details are wanting. The collections of the late Mr. M. H. Bloxam, F.S.A., are well-known as having contained objects illustrative of prehistoric times in Warwickshire. These collections are now in the Art Museum of Rugby School, but they must be pronounced somewhat disappointing for the purposes of this article. It is to be regretted also that some of the prehistoric antiquities in the museum at Warwick, particularly those of the bronze age, are unlabelled, and it is doubtful whether the place of their discovery will ever be ascertained.

The period covered by this section extends from the earliest trace of man or man's handiwork until the appearance of the Romans in Britain, and may conveniently be divided into (i.) palæolithic age, (ii.) neolithic age, (iii.) bronze age, and (iv.) prehistoric iron age.

THE PALÆOLITHIC AGE

The palæolithic age, unlike the succeeding prehistoric ages, is separated from our own times by something more than a very long interval of time. There have been considerable physical changes in the country itself, for Great Britain and Ireland were then parts of the continent of Europe.

As far as Warwickshire itself is concerned, there is not a great deal of material bearing upon this remote age. As has been stated, some of the collections which might have furnished illustrations of this period are not in a condition to supply positive evidence. But the numerous finds in adjoining counties suggest that Warwickshire, if more fully

¹ *The Antiquities of Warwickshire* (1656).

A HISTORY OF WARWICKSHIRE

investigated, should give abundant proofs of the presence of palæolithic man.

The implements of the palæolithic age, like those of the neolithic, appear to have been shaped by means of chipping the nodule of flint, into shape. In the case of the neolithic implements however greater degree of finish and more thorough precision of form have been attained by a grinding process which has removed much and sometimes all of the marks of the conchoidal fractures which resulted from chipping. Both neolithic and palæolithic implements however were produced without the aid of metal tools, for such tools belong to a period when metals and the methods of working them were equally unknown. The implements may be briefly described as follows :—

(1) *Method of Manufacture.*—Palæolithic implements have been boldly shaped by a comparatively few blows, which have produced ovoid or pointed forms, whilst neolithic implements bear evidence of many blows and not infrequently grinding.

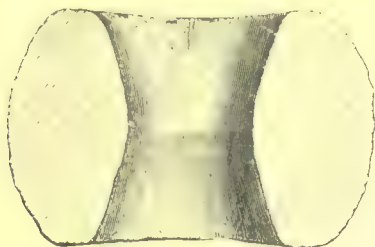
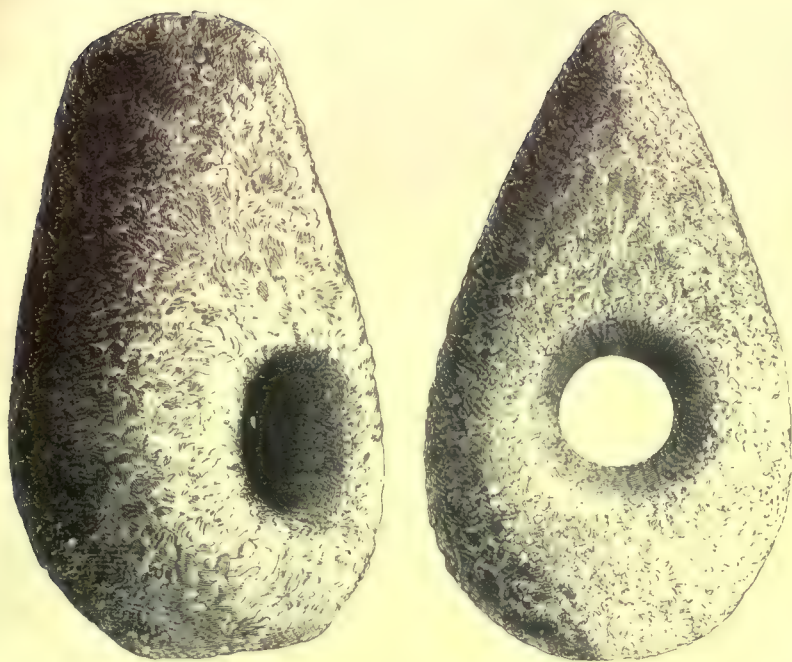
(2) *Superficial or Structural Change.*—Flint implements which have been much exposed to drift action or the influences of the weather bear evidence of it in the loss of that horny appearance usually found in a newly broken chalk flint. This alteration is found to extend sometimes only a little way below the surface and sometimes entirely through the flint. In addition to this many of the drift-worn flints have acquired a superficial colouring which varies from a pale straw colour to a rich ochreous brown or even dark brown. These are some of the marks of palæolithic implements. Neolithic implements rarely show any deep structural alteration or deep colouring, but are usually flint-coloured, milky white or pure white upon the surface.

(3) *Positions in which the Implements are found.*—Palæolithic implements are sometimes found several feet deep in river-drift gravel. Neolithic implements are never so found. They occur either in alluvial deposits or on or near the surface of the ground.

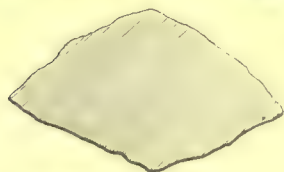
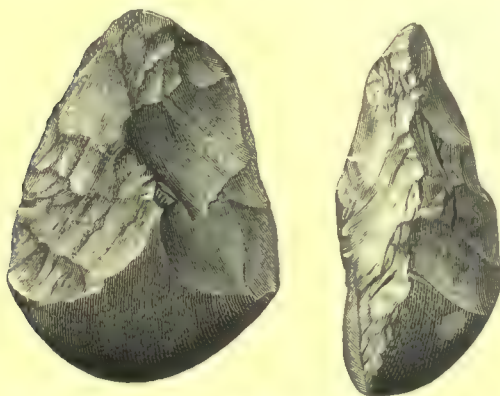
The points of difference here described may at first sight appear to be trivial, but as aids to the reconstruction of that remote period of the past of which we have no written story, their importance is by no means inconsiderable.

One of the most promising fields to which one might turn in the hope of finding palæolithic implements is the drift deposit in the valley of the river Avon, and as long ago as the year 1867 the Rev. P. B. Brodie¹ wrote: 'The later deposits of this kind are to be found along the valley of the Avon, and consist of the usual finer sands and gravels with mammalian remains; but I have not yet heard of any flint implements having been detected with them, though I do not think they have been so diligently searched after in the neighbourhood of Warwick, Stratford and elsewhere in the county as they have been in other places; and they may turn up at any time.' It is interesting to find that this

¹ 'Remarks on the Drift in a part of Warwickshire, and on the Evidence of Glacial Action which it Affords,' *Quarterly Journal of the Geological Society*, xxiii. 208.



PERFORATED HAMMERSTONE FROM SUTTON COLDFIELD.



PALÆOLITHIC IMPLEMENT FROM SALTLEY
NEAR BIRMINGHAM.



BRONZE DAGGER FROM NEW BILTON.

EARLY MAN

prophecy has already been fulfilled. Mr. S. S. Stanley of Leamington, in a communication to the present writer, records the discovery of a palæolithic flake in river gravel at Walton. Other flint implements were also found in the same gravel, and presumably they were also of the palæolithic age, but unfortunately they are now lost.

Sir John Evans, in his monumental work on stone implements,¹ is able to record another palæolithic discovery in the old gravels of the river Rea at Saltley near Birmingham. It has been made of a brown quartzite pebble and has been skilfully chipped to a point at one end whilst the sides have been chipped to an edge. It was found in a bed of sandy gravel composed mainly of small quartzite pebbles and a light-brown sandy matrix. The bed also contains a few broken flints. The discovery is in every way one of considerable importance.

Saltley is situated in the northern end of Warwickshire and considerably beyond an imaginary line drawn from the Severn to the Wash, which is generally considered to mark the northern limit of the area in which palæolithic implements are commonly found.

Among the implements found in the caves of Creswell Crags, Derbyshire, were several roughly made of quartzite. This is exactly what might be expected in a district where flint is rare, and the discovery suggests the question whether there may not be many more remains of the palæolithic age in the Midlands and the north of England than had hitherto been suspected. Sir John Evans, who has discussed this question somewhat fully in his book,² inclines to the idea that further remains in other materials than flint may reward searches among the ancient gravel-like alluvial deposits of our northern rivers. There is a difficulty in determining the age and characteristics of implements formed of such substances as quartzites and many of the older rocks, arising from the uncertain character of the marks of human workmanship upon them and the slight degree of alteration due to weathering to which they are susceptible. However, this imperfect evidence might be checked or strengthened by a close attention to the succession and relative ages of the beds in which they occur.

THE NEOLITHIC AGE

It has been already pointed out that the neolithic age is sharply separated from the palæolithic age by a long interval of time. During the neolithic age however the surface of the land had assumed its present appearance. The river ~~drift~~ period as it had formerly existed was at an end, and the trees, plants and animals of the neolithic age may be said to have been roughly the same as those we now have, except that some species have been exterminated and others introduced by the forces of civilization. There have also been some changes on the sea-coast, by which the shore has been modified, since the first appearance

¹ *The Ancient Stone Implements, Weapons and Ornaments of Great Britain*, pp. 578-9, ed. 2.

² *Op. cit.*, pp. 580-1.

A HISTORY OF WARWICKSHIRE

of neolithic man, but these appear trivial when compared with those of the palæolithic age.

From what has already been said about the scarcity of flint in Warwickshire, and the rarity of its use for the making of palæolithic implements, the reader will be prepared to find that the neolithic implements discovered in the same district have in several cases been made of various materials besides flint. A hard local stone has been employed for the manufacture of neolithic implements found at some of the following places in Warwickshire :—

Barton-on-the-Heath.—A celt formed of flint and thoroughly ground all over so as to obliterate nearly all marks of chipping was found here some years ago. It is $5\frac{1}{2}$ in. long, $2\frac{1}{8}$ in. broad and $1\frac{1}{4}$ in. thick, the somewhat clumsy proportions being due apparently to the poor character of the material employed. It is preserved in the museum at Rugby School.



CELT OF WHITE FLINT,
FOUND AT LONG COMPTON,
WARWICKSHIRE.

Hartsbill Common.—A perforated axe¹ made of blue stone and weathered superficially to an olive-green colour. It was found in 1770 in or near a tumulus, but the record is not very clear. In form it presents the peculiarity of expanding at both the blunt and the sharp ends.

Lillington near Warwick.—A small ground celt of green stone, slightly over 3 inches long, now in Warwick Museum. Found in 1900 by Mr. S. S. Stanley.

Long Compton.—A ground flint celt, completely smoothed all over, was found some years ago at Long Compton, and passed into the possession of Mr. M. H. Bloxam, F.S.A.² It is described by Mr. Beesley³ as 'a sacrificial celt,' but is evidently an implement of the usual type.

Sutton Coldfield.—A perforated hammerstone of green stone, 3 inches in length.⁴

Walsgrave-upon-Sowe near Coventry.—A perforated axe of green stone superficially damaged by weathering, now in the collection of Sir John Evans.⁵

A hammerstone, 3 inches long, made from a quartzite pebble, was found at Ryton-on-Dunsmore, Coventry.⁶

THE BRONZE AGE

The prehistoric period witnessed no more important event than the discovery of metal. It is difficult, if not impossible, to understand all that was involved in the introduction of bronze and the art of working it.

¹ Bartlett's *History and Antiquities of Mancetter, Warwickshire*, p. 17, pl. 2, fig. 3; Evans' *Ancient Stone Implements*, p. 187, ed. 2.

² *Fragmenta Sepulchralia*, by M. H. Bloxam, p. 12.

⁴ Op. cit. p. 224; *Proc. Soc. Antiq.* vii. 268, ser. 2.

⁵ Evans' *Ancient Stone Implements*, p. 198, ed. 2.

³ *The History of Banbury*, i. 7.

⁶ Ibid. p. 240, ed. 2.

EARLY MAN

Hitherto the only materials available for the manufacture of the toughest and hardest tools had been flint and stone. The art of working these substances had been carried to its utmost development; but excellent as some of the neolithic work undoubtedly was, the implements were liable to be injured by use, and the fear of damaging an elaborately wrought celt, for example, must have been a source of constant care to the neolithic warrior or hunter. The need of some less brittle and more pliable material for the manufacture of weapons and tools must have been keenly felt before the discovery of metals was made.

How that knowledge was first acquired is not known, and perhaps, seeing how great an interval of time separates the earliest age of metal from our own, it will never be discovered. It has been suggested however that the discovery may have been made accidentally in those early days when neolithic man cooked his food on fires made in shallow pits dug into the ground. Such fires must have engendered sufficient heat to melt certain metals, and may easily have given man the first idea of smelting metals.

It is hardly likely that the discovery was made in this country. The evidence, so far as it has yet been examined, goes to show that the art of extracting copper and tin from their ores, and the skill of blending them in such proportions as would give the requisite hardness, were both acquired in some other part of Europe or Asia, or even Africa. This is pretty clear from the fact that some of the earliest metal objects found in the British Islands are evidently the work of people skilled in the art of blending metals.¹

The earliest forms of bronze implements found in Britain are flat axes or celts and small bronze hand daggers. Of the latter kind the New Bilton dagger, which will presently be described, is a good example. Early celts as well as daggers are composed of bronze of excellent quality.

At first metal would doubtless be very rare and valuable, but as soon as native metallic ores were worked it is probable that there would be a desire to reproduce in metal the heavy flint or stone celts which had hitherto been the highest achievement of the tool or weapon maker's efforts. For this purpose an actual stone celt was probably made to serve as a model.

The remains of the bronze age comprise celts of bronze which have evidently been cast in this way from stone originals, and they have been thought to represent the earliest form in which metal celts were made. The objection to such a theory is that they would require a large amount of metal at a time when it was scarce, and it seems more probable that they may be referred to a period when bronze was plentiful and easily procured.

Bronze implements are sometimes found singly upon or near the surface of the ground, but more often in the form of hoards below the surface. Warwickshire does not furnish an example of this kind of deposit, but there is no reason why a hoard of bronze objects should not

¹ Munro, *Prehistoric Scotland*, pp. 177-8.

A HISTORY OF WARWICKSHIRE

be found during such excavations of the soil as may be made from time to time.

The following bronze age antiquities which have been found in Warwickshire are not very numerous, but they present several features of interest.

The first recorded discovery of this character to be mentioned was that of a 'brass sword and battle-axe,' which, as Dugdale¹ relates, were found within his memory near Nadbury Camp in Ratley parish. As Dugdale's account was written before the year 1656,² this is a rather interesting record of an early discovery of bronze age objects. In the 'brass sword' and 'battle-axe' it is not difficult to recognize a bronze sword and bronze celt or possibly a palstave.

Sir John Evans, in his book dealing with the subject,³ records three or four other discoveries of this age in Warwickshire. One, a winged celt, $7\frac{1}{4}$ inches long, was found at Wolvey,⁴ and was preserved in the collection of Mr. M. H. Bloxam, F.S.A. In form it was similar to the specimen depicted in fig. 54 of Sir John Evans' book. A palstave, of which no definite particulars were obtainable, was also discovered at Wolvey.⁵

Mr. Bloxam records⁶ the discovery of a 'British spearhead of bronze, of a late type,' about the year 1825, near the site of a tumulus called Pilgrim's Lowe, a little to the north-east of Rugby.

A small bronze hammer was found at Rugby,⁷ and was preserved in the collection of the late Mr. Bloxam. Perhaps the most important bronze age discovery in the county was that of a bronze dagger, $9\frac{3}{4}$ inches in length, at New Bilton⁸ near Rugby. The accompanying illustration⁹ shows the details admirably. The two rivets at the base of the dagger are still in position, and 'the corroded surface of part of the blade shows traces of hair, probably from the lining of a sheath of hide having been in contact with it.'¹⁰

Among the archæological collections in the museum at Warwick are several bronze age objects which presumably have been found in Warwickshire, but nothing seems to be known about the precise localities of the discoveries or any other circumstances connected therewith. Under these circumstances it will be impossible to mark the discoveries on the map of prehistoric remains.

The objects consist of the following:—

(1) A flat celt, 6 inches long, with expanding cutting edge, and ornamented with panels outlined with dashes and zig-zags.

¹ *The Antiquities of Warwickshire*, illustrated, 1656 ed. p. 420; 1730 ed. p. 541.

² The date of the first edition of his book is 1656.

³ *The Ancient Bronze Implements, Weapons and Ornaments of Great Britain and Ireland*.

⁴ *Op. cit.* p. 75.

⁵ *Op. cit.* p. 86; *Proc. Soc. Antiq.* iii. 129, ser. 2.

⁶ *The Antiquities of Warwickshire* (1875), p. 10.

⁷ Evans' *Ancient Bronze Implements*, p. 179; *Proc. Soc. Antiq.* iii. 129, ser. 2.

⁸ Evans' *Ancient Bronze Implements*, p. 245; *Proc. Soc. Antiq.* iv. 49–50, ser. 2.

⁹ Reproduced by kind permission from an engraving published by the Society of Antiquaries of London.

¹⁰ *Proc. Soc. Antiq.* iv. 49, ser. 2.

EARLY MAN

(2) A flat celt, $4\frac{1}{4}$ inches long, with expanding edge and sharpened at each end.

(3) A fine palstave, $5\frac{1}{2}$ inches long, with one loop and well developed stop-ridge.

(4) A palstave, $4\frac{1}{4}$ inches long, broken at the smaller end.

(5) A palstave, 4 inches long, similarly broken.

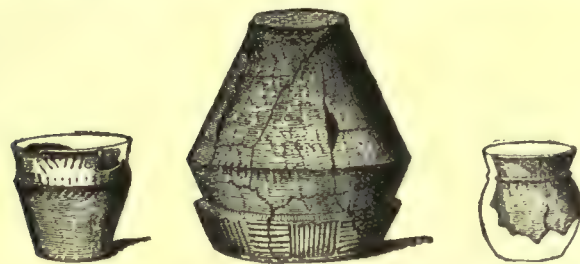
(6) A palstave, $4\frac{1}{4}$ inches long, similarly broken.

(7) A small socketed celt, 2 inches long, with one loop.

(8) A celt-shaped piece of flat bronze, $4\frac{1}{2}$ inches long, probably a modern forgery.

The series of three palstaves (4, 5 and 6), all broken obliquely at the top end, is of great interest on account of the evidence it affords of

the uses to which bronze celts and palstaves were put. Certain writers upon the question have assumed, perhaps too hastily, that they were all for military purposes. Dugdale, as we have seen, calls them battle-axes; but a careful examination of many specimens has led the writer to the opinion that many were car-



POTTERY FOUND IN A SEPULCHRAL BARROW NEAR OLDBURY CAMP, WARWICKSHIRE.

penters' tools, used for hewing timber and for cleaving and splitting wood much in the same way as the rural maker of sheep-gates works.

Of the numerous examples of bronze celts and palstaves now preserved in the Rugby School Museum none apparently were procured from Warwickshire.

A considerable advance in various branches of civilization is indicated by the remains of the bronze age. The use of metal enabled the husbandman to reap his corn by means of metal sickles, several of which have been found in England. Oxen were used for ploughing, and several plants such as beans and oats, not hitherto known, were cultivated. The lathe was used for turning stone objects, and pottery of an improved kind and ornamented by a series of impressed lines arranged in zig-zag fashion was made.



POTTERY FOUND IN A SEPULCHRAL BARROW AT BRANDON, WARWICKSHIRE.

The graves or sepulchral barrows of the bronze age were circular in plan, and used for the interment of the cremated remains of only one person. The earlier long barrows of the neolithic age were sometimes furnished with a central chamber or cist of stone, and generally more than one interment was made in each barrow.

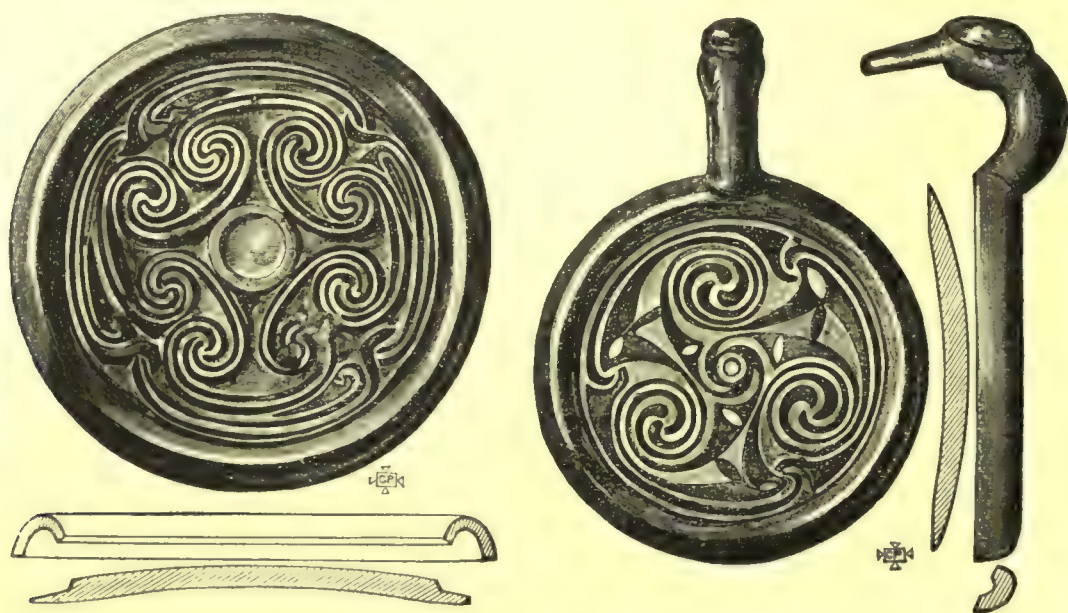
A HISTORY OF WARWICKSHIRE

The contents of two bronze age barrows from the collection of the late Mr. M. H. Bloxam are preserved in the School Museum at Rugby. One at Oldbury, near Atherstone, was opened in 1835, when a sepulchral urn of usual type with ornament produced by parallel incised lines, and two smaller vessels, possibly a food vessel and drinking cup, were found. The other was discovered during the work of constructing the Birmingham and London railway at a point about a quarter of a mile to the west of Brandon station. Here also three vessels of pottery were found.

THE PREHISTORIC IRON AGE

The last age of the prehistoric period begins with the introduction of the use of iron and ends with the appearance of the Romans on our shores. It has been called the prehistoric iron age, but the term is not strictly accurate, because although iron had come to be used for many purposes for which hardness and sharpness were desirable qualities, bronze was still used for personal ornaments, horse trappings, etc. Moreover, a new fashion of decorative art arose, based probably upon natural floral or foliage forms, and consisting of various combinations of spiral and trumpet-like shapes. This style of decoration, which was often executed in enamel on bronze and assumed a very remarkable development in this country and elsewhere, is what has been called Late Celtic art.

The prehistoric antiquities found in Warwickshire include some good examples of this art. They consist of five circular and slightly convex



BRONZE DISCS FROM CHESTERTON-ON-FOSSWAY.

discs of bronze ornamented with spiral and enamelled work. They were found at Chesterton-on-Fossway and are now in the museum at Warwick. There are two types of ornament employed, but both, as will be seen

EARLY MAN

from the excellent drawings¹ of the objects, are of characteristic Late Celtic form. The purpose for which these discs were used was long a matter of speculation among archæologists, but Dr. Ingvald Undset, in a paper published by the Royal Society of Northern Antiquaries² in 1890, conclusively proved that they were parts of the mountings of metal bowls. They were attached to the bowl by means of a ring furnished with a zoöomorphic termination which served as a hook for suspension. Some of these ring settings were discovered with the discs and are now preserved in Warwick Museum. Mr. J. Romilly Allen, F.S.A., who in 1898 contributed to the Society of Antiquaries of London³ a valuable paper on the metal bowls of this character found in different parts of England, ascribes them to the end of the Late Celtic period and the beginning of the Saxon period.⁴

COINS OF THE ANCIENT BRITONS

Sir John Evans, in his well-known work on this subject, records only one ancient British coin as having been found in Warwickshire. This was of gold bearing on the obverse an object like a fern leaf or spike of flowers, and on the reverse a horse, a circular wheel-like object, etc., and the inscription **VO-CORIO-AD** (?). The coin, which was found at Stoneleigh, was formerly in the possession of Mr. Llewellyn Jewitt, F.S.A.

Another gold coin, of a more common type, is however stated to have been found at Southam. The particulars given are not very precise, but it appears that one side of the coin was plain, and the other bore 'the imitation of Philip's stater.'⁵

MEGALITHIC REMAINS

The interesting megalithic group known as the Rollright Stones, situated mainly in Oxfordshire, but partly in Warwickshire, consists of (i.) a circle of about seventy blocks of stone, 100 feet in diameter ; (ii.) a single upright stone of irregular form, known as the King-stone, and standing to the north-east of the circle ; and (iii.) a group of stones called the Whispering Knights, in a more eastern direction and at a greater distance.

The Rollright Stones are mentioned by Camden and Plot, and have been more minutely described by Mr. Arthur J. Evans,⁶ who considers the whole group to be the work of more than one period, but later than the

¹ Here reproduced by the kind permission of the Society of Antiquaries of London.

² *Mémoires de la Société Royale des Antiquaires du Nord* (1890), pp. 33-44.

³ *Arch.* lvi. 39-56.

⁴ As it is probable that the Warwick discs may belong to the latter period rather than the former, the subject will be more fully dealt with in the article on 'Anglo-Saxon Remains' in this volume, and to that the reader may be referred for a more particular account of them. If the actual time of manufacture be within the Anglo-Saxon period, however, the origin of the ornamental forms with which they are enriched must unquestionably be referred to an earlier period and probably to a time anterior to the Roman occupation.

⁵ Information given by the Rev. J. H. Bloom.

⁶ *Folk-Lore*, vi. 6-17.

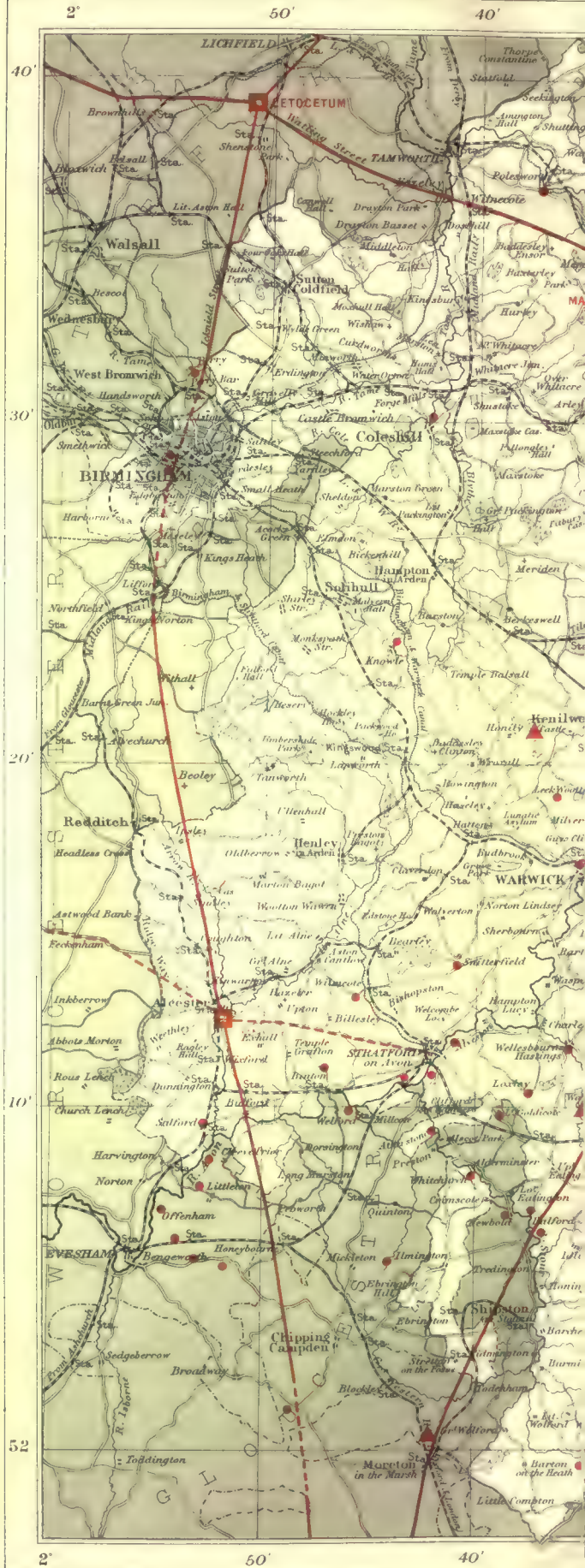
A HISTORY OF WARWICKSHIRE

neolithic age, and possibly belonging to that of bronze or prehistoric iron. These remains lie on a bleak exposed hill, more than 700 feet above sea-level, and are apparently connected with an ancient roadway which at this point forms the boundary line between Oxfordshire and Warwickshire, the circle lying within the borders of the former county. The whole group belongs, in fact, more particularly to Oxfordshire, and will be described in the volume which deals with the prehistoric remains of that county.

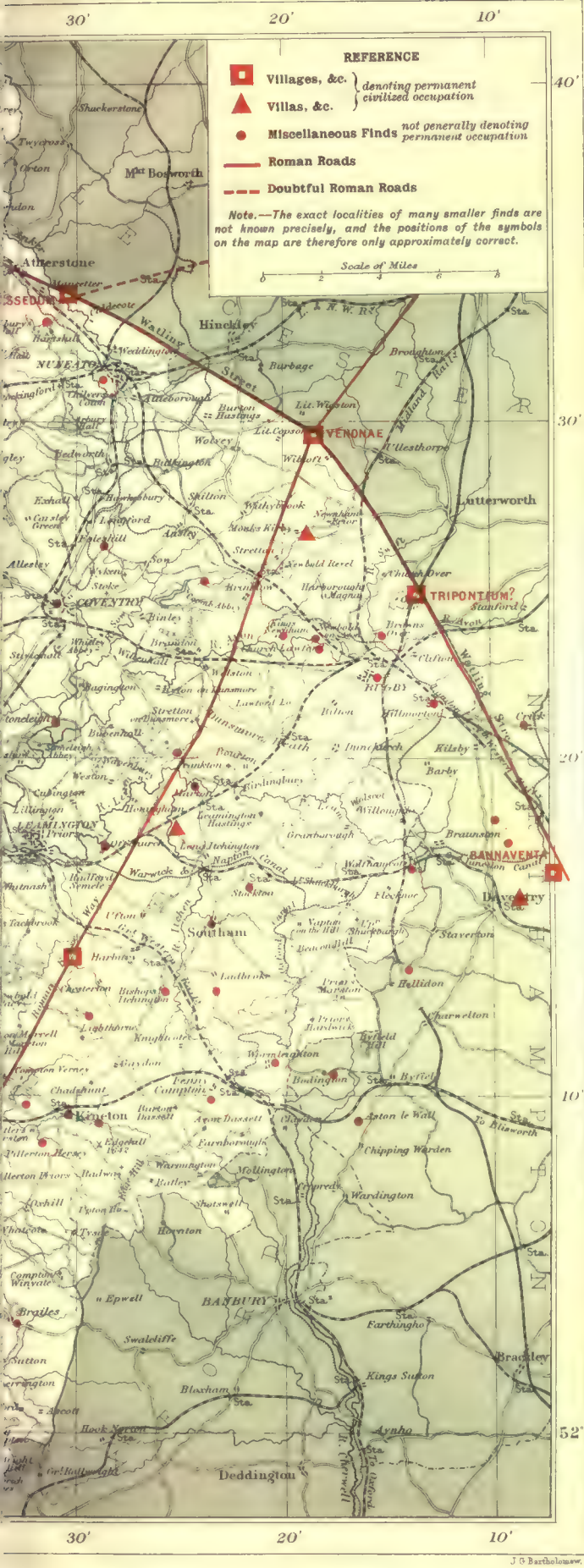
TOPOGRAPHICAL LIST OF PREHISTORIC ANTIQUITIES IN WARWICKSHIRE

The following is a brief list of the various places in Warwickshire from which prehistoric remains have been obtained or where they still exist. Compared with some other counties it appears unusually meagre, but it must be remembered that the superficial area of Warwickshire is less than that of several other of the counties which are remarkable for their prehistoric remains.

- ATHERSTON, OLDBURY CAMP.—Bronze age interment. Urns in Rugby School Museum.
- BARTON-ON-THE-HEATH.—Ground neolithic celt of flint, 5½ inches long; now in Rugby School Museum.
- BRANDON.—Bronze age interment. Urns in Rugby School Museum.
- BRINKLOW.—Prehistoric camp.
- BROWNSOVER.—Prehistoric camp.
- CHESTERTON-ON-FOSSWAY.—Late Celtic discs of enamelled bronze.
- KENILWORTH COMMON.—Chips of flint found in gravel near an ancient earthwork [*Proc. Soc. Antiq.* vii. 267, ser. 2]. Rude celt of millstone grit [*ibid.* vii. 267–8; *Arch. Journ.* xxxiii. 371].
- LILLINGTON.—Neolithic interment and settlement. Human skull, drinking cup and spindle-whorl discovered by Mr. S. S. Stanley.
- LONG COMPTON.—Ground neolithic celt of white flint [Bloxam's *Fragmenta Sepulchralia*, p. 12; Beesley's *History of Banbury*, i. 7]. Megalithic remains, known as the Roll-right Stones.
- NEW BILTON.—Bronze dagger, 9¾ inches long and 2¾ inches wide [Evans, *Bronze Implements*, p. 245; *Proc. Soc. Antiq.* iv. 50, ser. 2].
- OLDBURY.—Chipped and ground neolithic celt found at Oldbury Camp [Dugdale, *Antiquities of Warwickshire* (1730), p. 1081].
- RATLEY.—Nadbury Camp, a prehistoric earthwork: bronze sword and celt found there [Dugdale, *Antiquities of Warwickshire* (1730), p. 541].
- RUGBY.—Pilgrim's Lowe, a sepulchral barrow (probably prehistoric) near Rugby. Bronze spearhead. Small bronze hammer [Evans, *Bronze Implements*, p. 179; *Proc. Soc. Antiq.* iii. 129, ser. 2].
- SALTLEY.—Palæolithic implement [Evans, *Ancient Stone Implements*, pp. 578–9, ed. 2].
- STONELEIGH.—British coin [Evans, *Coins of the Ancient Britons, Supplement*, p. 488].
- SUTTON COLDFIELD.—Perforated hammerstone [Evans, *Ancient Stone Implements*, p. 224, ed. 2; *Proc. Soc. Antiq.* vii. 268, ser. 2].
- WALSgrave-UPON-SOWE.—Neolithic perforated axe [Evans, *Ancient Stone Implements*, p. 198, ed. 2].
- WALTON.—See WELLESBOURNE-HASTINGS.
- WELLESBOURNE-HASTINGS WITH WALTON.—Palæolithic flake. Several neolithic flint chips and flakes [*Proceedings of the Society of Antiquaries of London*, vii. 268, ser. 2].
- WOLVEY.—Bronze celt in the Bloxam collection resembling in form that figured in Sir John Evans' *Bronze Implements*, fig. 54. Bronze palstave [*Proc. Soc. Antiq.* iii. 129, ser. 2].



EMAINS.



J. G. Bartholomew.



ROMANO-BRITISH WARWICKSHIRE¹

1. Sketch of Roman Britain. 2. Sketch of Roman Warwickshire. 3. Places of settled occupation: Cave's Inn, High Cross, Mancetter, Chesterton, Alcester. 4. Other settled sites. 5. Roads. 6. Index.

I. SKETCH OF ROMAN BRITAIN

WITH the Romano-British period we begin to pass from the prehistoric into the historic. But we do not reach at once the domain of full history. We obtain guidance from the allusions or narratives of ancient writers, but we still depend very largely on archæological evidence, and we cannot construct any narrative history of our subject. This is partly due to the fact that our knowledge is insufficient, but it arises still more from the nature of the subject. Roman Britain was not an independent unit: it was only a part of a vast and complex empire. Roman Warwickshire was still less an independent unit. It was a part of Roman Britain and a part not recognized as such by the Romans. In fact, the phrase Roman Warwickshire, though convenient from its brevity, is strictly speaking a contradiction in terms. When the Romans ruled our island, neither Warwickshire nor any other of our counties was yet in existence, nor was Britain divided into any districts geographically coinciding with them. Neither the boundaries of the Celtic tribes nor those of the Roman administrative areas, so far as we know them, agree with our existing county boundaries, and students of the Roman remains found in any one county have to deal with a division of land which for their purposes is accidental and arbitrary. Warwickshire to the archæologist concerned with the Roman period is a meaningless area devoid of unity. He can describe it but he cannot write anything like a real history of it. It has seemed desirable, therefore, in the following paragraphs to diverge a little from the plan followed by most county historians in dealing with Roman antiquities. Hitherto it has been customary to give a narrative of the chief events recorded by ancient writers as

¹ For the following article I have searched the literature for myself and have visited the chief sites and museums. I have to thank Mr. W. H. Stevenson and Mr. G. B. Grundy for various help, and also Mr. Willoughby Gardner, the Rev. J. H. Bloom, Mr. S. Stanley, and others named below. I may add that I have found the task of getting accurate information about details a far more laborious one than the length of this article or the importance of the subject might suggest. In the result, however, I have been able to include a good deal of unpublished material.

A HISTORY OF WARWICKSHIRE

having occurred in Britain, and to point out which of these events took place, or may be imagined to have taken place, within the county. The result is always to give an impression that somehow the county had in Roman times some sort of local individuality and local history. We shall here adopt a different plan, suggested by the recent developments of topographical research. Utilizing the archæological evidence, which is now far better known and appreciated than it was a hundred years ago, we shall try first to sketch briefly the general character of the Roman province in Britain, its military, social and economic features. We shall then point out in some detail how far the Roman antiquities of our county illustrate this general sketch ; that is how far the district now called Warwickshire was an average bit of Roman Britain.

The Roman occupation was undertaken by the Emperor Claudius and commenced in A.D. 43. At first its progress was rapid. Within three or four years the Romans overran all the south and midlands as far as Exeter, Shrewsbury and Lincoln : part was annexed, part left to 'protected' native princes. Then came a pause : some thirty years were spent in reducing the hill tribes of Wales and Yorkshire, and during this period the 'protected' principalities were gradually absorbed. About A.D. 80 the advance into Scotland was attempted : in 124 Hadrian built his Wall from Newcastle to Carlisle, and thereafter the Roman frontier was sometimes to the north, never to the south of this line. The 'province' thus gained fell practically, though not officially, into two marked divisions, which coincide roughly with the lowlands occupied in the first years of the occupation and the hills which were conquered later. The former were the regions of settled civil life, and among these we have to include the district now called Warwickshire. The troops appear to have been very soon withdrawn from them, and with a few definite exceptions there was probably not a fort or fortress or permanent military post throughout this part of our island after the end of the first century. On the other hand the Welsh and northern hills formed a military frontier-district, with forts and fortresses and roads, but with no towns or ordinary civilian life. It was the Roman practice, at least in the European provinces of the Empire, to mass the troops almost exclusively along the frontiers, and Britain was no exception. The army which garrisoned this military district was perhaps forty thousand men. It ranked as one of the chief among provincial armies, and constituted the most important element in Roman Britain. With the military district however we are not now concerned. For our present purpose it suffices to note its existence, in order to explain why traces of military occupation are absent in Warwickshire. But we may pause to examine the chief features of the non-military districts within which our county is included. These features are not sensational. Britain was a small province, remote from Rome and by no means wealthy. It did not reach the higher developments of city life, of culture or of commerce, which we meet in more favoured lands—Gaul or Spain or Africa. Nevertheless it had a character of its own.

ROMANO-BRITISH WARWICKSHIRE

In the first place, Britain like all the provinces of the western Empire became Romanized. Perhaps its Romanization was comparatively late in date and imperfect in extent. But in the end the Britons generally adopted the Roman speech and civilization, and in our island, as in all western Europe, the difference between Roman and provincial practically vanished. When the Roman rule in Britain ended (about A.D. 410), the so-called departure of the Romans did not mean what the end of English rule in India or French rule in Algeria would mean to-day. It was not an emigration of alien officials, soldiers and traders; it was more administrative than racial. The gap between Briton and Roman, visible enough in the first century, had become obliterated by the fourth century. Probably the country folk in the remoter parts of Britain continued to speak some Celtic during the Roman period. But the townspeople and the educated seem to have used Latin, and on the side of material civilization the Roman element reigns supreme. Before the Claudian invasion there existed in our island a Late Celtic art of considerable merit, best known for its metal work and earthenware, and distinguished by its fantastic use of plant and animal forms, its employment of the 'returning spiral' (fig. 1), and its enamelling. This art and the culture which went with it vanished before the Roman. In a few places, as in the New Forest, its products survived as local manufactures; in general it met the fate of every picturesque but semi-civilized art when confronted by an organized and coherent culture. Almost every important feature in Romano-British life was Roman. The commonest good pottery, the so-called Samian or Terra Sigillata, was copied directly from an Italian original and shows no trace of native influences; it was indeed principally imported from abroad. The mosaic pavements and painted stuccoes which adorned the houses, the hypocausts which warmed them, and the bathrooms which increased their luxury, were equally borrowed from Italy. Nor were these features confined to the mansions of the wealthy. Samian bowls and coarsely coloured plaster and makeshift hypocausts occur even in outlying hamlets.¹

But though the Romanization was thus tolerably complete, it must be further qualified as a Romanization on a low scale. The more elaborate and wealthy features of the Italian civilization, whether material or intellectual or administrative, were rare or unknown in Britain. The finest objects of continental manufacture in glass and pottery and gold-work came rarely to the island, and the objects of local fabric rarely attained a high degree of merit. The choicer marbles and the finer statuary are still rarer, and the Romano-British mosaics are



FIG. 1. LATE CELTIC ORNAMENT ILLUSTRATING THE RETURNING SPIRAL.

¹ Compare R. Colt Hoare, *Ancient Wilts, Roman Æra*, p. 127: 'On some of the highest of our [Wiltshire] downs I have found stuccoed and painted walls as well as hypocausts introduced into the rude settlements of the Britons.' The discoveries of the late General Pitt-Rivers fully confirm this.

A HISTORY OF WARWICKSHIRE

usually commonplace. Of organized municipal or commercial or administrative life we have but scanty traces. The civilization of Roman Britain was Roman, but it contained few elements of splendour.

We may distinguish in this civilization two local forms deserving special notice—the town and the villa. The towns of Roman Britain were not few, but, as we might expect, they were for the most part small. Scarcely any seems to have attained very great size, according to the standard of the empire. The highest form of town life known to the Roman was certainly rare in Britain: the *coloniæ* and *municipia*, the privileged municipalities with the Roman franchise and constitutions on the Italian model, were represented, so far as we know, only by five examples, the *coloniæ* of Colchester, Lincoln, and Gloucester and York, and the *municipium* of Verulamium, and none of these could vie with the greater municipalities of other provinces. Of other towns, probably inferior in rank, there was more abundance, especially in the south and east of Britain. These varied greatly in size. The larger ones, like Silchester or Canterbury or Chichester, had walls to defend themselves, and a *forum* built on the Roman plan and providing accommodation for magistrates, traders and idlers; these towns doubtless possessed some form of municipal life and may be described as country towns. Others were smaller in various degrees, and in some cases, which will concern us in Warwickshire, it is hard, on defective evidence, to decide whether we ought to use the word ‘town’ at all.

Outside these towns the country seems to have been principally divided up into estates usually called ‘villas,’ and in this respect, as in many other points, Britain resembled northern Gaul. The ‘villa’ was the property of a large landowner who lived in the ‘great house’ if there was one, cultivated the land immediately round it (the *demesne*) by his slaves and let the rest to half-serf *coloni*. The estates formed for the most part sheep runs and corn land, and supplied the cloth and wheat which are occasionally mentioned by ancient writers as products of the province during the later Imperial period. The landowners may have been to some extent immigrant Italians, but it can hardly be doubted that, as in Gaul, they were mostly the Romanized nobles and upper classes of the natives. The common assertion that they were Roman officers or officials may be set aside as rarely if ever correct. The peasantry who worked on these estates or were otherwise occupied in the country lived in rude hamlets, sometimes in pit-dwellings, sometimes in huts, with few circumstances of comfort or pleasure. Their civilization however, as we have said, was Roman in all such matters as the better objects in common use or the warming and decoration of the houses.

One feature, not a prominent one, remains to be noticed—trade and industry. We should perhaps place first the large farming industry, which produced wheat and wool. Both were exported in the fourth century, and the export of wheat to the towns of the lower Rhine is mentioned by an ancient writer as considerable. Unfortunately the

ROMANO-BRITISH WARWICKSHIRE

details of this industry are almost unknown : perhaps we shall be able to estimate it better when the Romano-British ' villas ' have been better explored. Rather more traces have survived of the lead mining and iron mining, which at least during the first two centuries of our era was carried on with some vigour in half a dozen districts—lead on Mendip, in Shropshire, Flintshire and Derbyshire ; iron in the Weald and the Forest of Dean. Other minerals were less important. The gold mentioned by Tacitus proved very scanty, and the far-famed Cornish tin seems (according to present evidence) to have been worked comparatively little and late in the Roman occupation. The chief commercial town was from the earliest times Londinium (London), a place of some size and wealth, and perhaps the residence of the special authorities who controlled taxes and customs dues.

Finally let us sketch the roads. In doing so we must dismiss from our minds the Four Great Roads which are mentioned in some early English documents. Three of these four roads were Roman in origin, but the fourth is not, and the idea of any such Four Great Roads is alien to the Roman road system. We may divide this Roman system into four groups all commencing from one centre, London. One road ran south-east to Canterbury and the Kentish ports. A second ran west and south-west from London to Silchester, and thence by ramifications to Winchester, Dorchester and Exeter, Bath, Gloucester and South Wales. A third, Watling Street, ran north-west across the Midlands to Wroxeter, and thence to the military districts of the north-west ; it also gave access to Leicester and the north. A fourth ran to Colchester and the eastern counties, and also to Lincoln and York and the military districts of the north-east. To these must be added two roads which had no connection with London. The most important of these is the Fosse, which cut obliquely across the island from north-east to south-west, joining Lincoln, Leicester, Bath and Exeter. The other is the Rycknield or Icknield Street which ran from Yorkshire past Derby and Birmingham to join the Fosse in Gloucestershire. These roads must be understood as being only the main roads, divested for the sake of clearness of branches and intricacies ; and understood as such they may be taken to represent a reasonable supply of internal communications for the province. After the Roman occupation had ceased, they were largely utilized by the English, but they do not resemble the roads of medieval England in their grouping and economic significance. We may rather compare them to our railways which radiate similarly from London. In the following paragraphs we shall be concerned with the third, fifth and sixth of these roads, Watling Street, Fosse and Rycknield Street.

2. SKETCH OF ROMAN WARWICKSHIRE

Such in the main was that large part of Roman Britain in which ordinary non-military civilized life prevailed. To that part Warwickshire belongs, and when we pass on to survey in detail the Roman

A HISTORY OF WARWICKSHIRE

remains discovered in the county, we might expect to meet the features which we have sketched in the preceding paragraphs. To some extent our expectation will not be disappointed. There certainly existed in the district which is now Warwickshire a Romano-British civilization of the normal type. But it was not at all normal in amount. Towns and villages were few and very small, and most of them hardly deserve such names at all. Villas were even less abundant. Industries were wholly absent. Roads, though prominent and important, merely crossed the district and do not affect its character. In general, the Roman remains of the county are scanty and disappointing. Some allowance must no doubt be made for the absence of exploration and excavation. The spade has seldom been used for archæological purposes in Warwickshire, and even the results of sporadic discoveries have been less systematically recorded than in most of our counties. Some distinction must be drawn, too, between different portions of the county. The south and east, the more open and fertile districts, were better settled, apparently, than the west and north, which include the woodlands of Arden. But on the whole we must admit that the county has to be classed as one of the thinner spaces (if we may use the phrase) in Roman Britain. Probably we may find the reason for this in the general character of the English midlands during the Roman period.

The Romano-British civilization of the midlands differed markedly from that of the surrounding districts. In the latter we meet with striking embodiments of Romano-British life, such as the country towns of Verulamium in Hertfordshire, Chesterford in western Essex, Castor on the edge of Huntingdonshire and Northamptonshire, Wroxeter in Shropshire, Gloucester, Cirencester, Silchester, each in its degree a place of note. The midland area contained no such elements. Except Leicester, its towns were far too small to be matched with any of those just named; indeed, they are hardly towns at all, and the whole Romano-British life of the region was simple, plain and devoid of character and salient features. The reason for this may perhaps be found in physical facts. The midlands, though often described by geographers as the central plain of our island, do not in reality form a plain in the ordinary sense of that word. They form a complex district which is especially notable for the low scale and small size of its various physical features. Little of it is flat, but it has no high hills or distinct ranges. Woods abound, but there are no continuous tracts of forest. Rivers rise within it, but they reach no size till they have passed its borders; their valleys are small and shallow, and even their watersheds are faint and ill-defined. It is a pleasant land, alike to those that dwell in it and those that wander through it; but, in the main, it is not fertile, or suited to corn or sheep, and thus it contains very little to aid the growth of towns or of a large agricultural population. Its mineral wealth attracts a dense throng of inhabitants to one part of it to-day, but that wealth was unknown in the Roman period. Then too the woods, both those of Arden and others, were doubtless thicker

ROMANO-BRITISH WARWICKSHIRE

than now, and the little valleys less carefully drained. It is not hard to understand why the midlands should have possessed a less richly developed civilization than many other parts of the Roman province of Britain.

This characteristic of Roman Warwickshire has been generally but not always very accurately recognized. For the recognition has been commonly accompanied by errors which tend to obscure the truth and which deserve correction. Two quotations from previous writers on Warwickshire will illustrate these errors and serve our purpose. The first quotation is from one of the most famous of our county histories, John Nichols' *Leicestershire* :—

Arden was an extensive wild, solely appropriated to the pasturage of the Cornavian and Huiccian cattle, attended by their keepers, the Ceangi of the different tribes. If we except a few hovels for the herdsmen, there were at that time no other habitations save at some of those stations on the roads going through the Arden (iv. 1028).

The Cornavian and Huiccian cattle and the herdsmen Ceangi are all pure inventions, due originally to the fertile brain of William Baxter and expanded by later writers.¹ We have no evidence that the Cornavii lived in Warwickshire ; the Huiccii were not a British tribe at all, and the Ceangi were not herdsmen but a tribe occupying what is now Flintshire. The one thing that is true in the passage is the general view that the district was thinly populated, and even this is distorted out of its true setting by the added errors.

A second quotation from a modern description of the county will exemplify a different conception of the subject, which is free from the definite errors of that just quoted, but is not itself correct :—

The Roman occupation of this part of the Midlands appears to have been only partial and chiefly limited to the camps along their roads, as the native tribes were enabled by the natural characteristics of the thickly wooded district, which afforded a secure ambush, to offer considerable resistance to the invaders.

This may have been true of the first ten or twenty years after the original conquest, while the land was still unquiet and resistance still rife. But a brief reflection will show that it cannot be true as a description applicable to three and a half centuries. Such a situation would quickly have been felt intolerable in the heart of a generally civilized country. Moreover the actual remains found in Warwickshire, which we shall now proceed to survey, give us no hint of roads permanently fortified by blockhouses and forests permanently occupied by unconquered natives. They indicate, on the contrary, a normal and peaceful life, which probably differed from the ordinary civilization of Britain only in the scantiness of population and the lack of prominent and distinctive features. Our next section, dealing with possible towns and villages, will immediately illustrate this.

¹ Baxter, *Glossarium Antiquitatum Britannicarum* (London, 1709), p. 73.

A HISTORY OF WARWICKSHIRE

3. PLACES OF SETTLED OCCUPATION

(Cave's Inn, High Cross, Mancetter, Chesterton, Alcester)

No Roman remains have yet been discovered in Warwickshire which can be reasonably interpreted as the remains of a large or even moderate-sized Romano-British town. On five sites however we meet traces of permanent occupation which have been generally taken to indicate the existence at least of hamlets, if not of very small towns, and the evidence appears on the whole adequate to support this view. These five sites are Cave's Inn, High Cross, Mancetter, Chesterton and Alcester. All are on Roman roads, Cave's Inn and Mancetter on Watling Street, High Cross at the crossing of Watling Street and the Fosse, Chesterton on the Fosse and Alcester on the road called Icknield or Rycknield Street; and most of them probably owe their origin to the roads. Of the first three we happen to know the Roman names, but it need only be pointed out that the knowledge of a name does not in itself help us far towards ascertaining the character of a place, and the survival of a name does not prove that a place was large or small or of any particular description.

(a) CAVE'S INN, TRIPONTIUM

Cave's Inn, once called New Inn, originally a wayside tavern but now a farm, is situated on the extreme east of Churchover parish and of Warwick county. It stands on the west side of Watling Street, which here divides Warwickshire from Leicestershire, on a site that slopes southwards to a stream, close to the point where the Great Central Railway crosses the Street. The fields above, that is, north of the house, have yielded various traces of Roman occupation. So long ago as 1657, Elias Ashmole, journeying along Watling Street, wrote to Dugdale that he had seen here much Roman brick and tile and had heard of Roman coins; the information came, however, a year too late to be inserted in Dugdale's history of the county. In the last century Mr. M. H. Bloxam called fresh attention to the place and recorded various objects found from time to time, most of them in the course of intermittent digging for gravel. These objects include bricks and tiles, window glass (?), a rubbish pit rudely steined with boulders; further, abundance of potsherds, including Samian and a *pelvis* said to be inscribed **NDRICAN**; a bronze fibula, rings and stylus, and three coins—a *denarius* of Nerva, a 'first brass' of Pius, and a 'second brass' of Faustina the elder.¹ Much

¹ See Ashmole's letter in Nichols' *Leicestershire*, i. p. cli. and *Bibliotheca Topogr. Britann.* vii. 287. Mr. Bloxam's accounts of the site are in the *Birmingham Analyst*, iv. (1836) 191; *Fragmenta sepulchralia* (privately printed, circa 1840-50), pp. 26, 35; *Proc. of the Soc. of Antiquaries*, ser. 2, v. 303 and viii. 318; *Transactions of the Birmingham and Midland Institute* (Archæological section), 1875, p. 35. In the two first, he mentions also some interments which he omits in his later accounts. I suspect that these belong to a post-Roman cemetery near Cave's Inn, which he at first considered Roman and afterwards discovered to be of later date. Mr. C. Roach Smith, in his *Collectanea Antiqua*, i. 35-8, figures some Roman pottery etc. from Cave's Inn shown him by Mr. Bloxam. Some fragments are in Rugby School Museum (fig. 2). In examining the site, I noticed traces resembling a rampart and ditch, much worn; but these are very uncertain.



FIG. 2. ROMANO-BRITISH POTTERY (Rugby School Museum).
The larger urn is of a reddish ware, resembling, though finer than, flowerpot ware, and was found at Cave's Inn (p. 230). The smaller is 'Samian,' and was found at Long Lawford (p. 247).



ROMANO-BRITISH WARWICKSHIRE

else seems to have been found but not recorded—for instance, by boys at Rugby school—and there is more to find. When I visited the site recently, I found frequent fragments of pottery and brick in the gravel pit and in the fields on both sides of the road, but particularly on the Warwickshire side. None of these objects are remarkable. The only one that I have thought deserving of reproduction is an urn of common red ware, almost of flower-pot texture, but somewhat curiously ornamented, which is now in the Rugby School museum (fig. 2). Still, the bricks and tiles and rubbish pit, taken together with the abundance of pottery, seem to indicate a permanent inhabitation of the spot in Roman times. As elsewhere in Warwickshire, we must wait for excavations before attempting to define the character of the occupation. We might expect to find that the place was a posting station or a wayside hamlet or perhaps a village.

Obscure in character, the spot seems nevertheless to have a name. The Antonine Itinerary (477, 2) mentions a 'station' on Watling Street called Tripontium, 12 Roman miles from Venonae and 8 from Bannaventa. Many sites have been suggested for this 'station.' Camden put it at Towcester, which he rechristened Torcester for the purpose, in his usual arbitrary fashion; but this is out of the question. Gale and Morton more reasonably put it at Dowbridge on Watling Street, a mile south of Cave's Inn; Stukeley and Reynolds, at Lilbourne, still further south; Ward at Rugby; and Salmon, eccentric as ever, at Edgehill. None of these guesses are satisfactory. Except Towcester, they have yielded no Roman remains; except Dowbridge, they conflict violently with the distances of the Itinerary. They are in reality guesses of despair, due to an unfortunate confusion respecting Bannaventa. There can be little doubt, in the present state of our knowledge, that Mr. Bloxam was wise in identifying Tripontium with Cave's Inn. It is a suitable distance from Venonae, which is High Cross (p. 232), and from Bannaventa, which is near Norton,¹ and it is the only site which thus agrees with the Itinerary and which has also yielded definite evidence of some permanent occupation.

Its name differs from most Romano-British place-names in that it is Latin and not native. It denotes the 'Three Bridges,' or the 'Bridge with three arches,' and is formed like such names as Septimontium, Trifanum, or Trimontium, which last was the name of the Roman fort near Melrose, close to the triple Eildon hills in Scotland. There was a Tripontium in Italy, an obscure hamlet near Forum Appi on the Appian Way, now Torre Tre Ponti; there was also, at least in the middle ages, a Tripontium in southern France near Arles.² The appropriateness of the name to the 'station' at Cave's Inn is not clear. Possibly the Roman bridge over the neighbouring stream had some peculiarity which has now long since vanished.

¹ *Victoria Hist. of Northamptonshire*, i. 186.

² *Corpus Inscriptionum Latin.* x. p. 642; Ducange. English writers on ancient geography have ignored both places.

A HISTORY OF WARWICKSHIRE

(b) HIGH CROSS

High Cross is a small hamlet, in which the parishes of Claybrooke, Wibtoft, Copston and Wigston converge, on the edge of Warwickshire and Leicestershire. It stands on comparatively elevated ground, with a wide prospect towards the north-east. Here Fosse and Watling Street cross, and this fact has given the spot an unsubstantial reputation as being (in Stukeley's phrase) the centre of England. No traces of Roman occupation are at present visible, but the writers of the sixteenth and seventeenth centuries testify to considerable remains. Camden states that foundations of hewn stone lay under the furrows on both sides of the road and coins were frequently found. Burton in 1622 mentions 'many ancient Roman coynes, great square stones and bricke and other rubble of ancient building,' and describes the coins as ranging from Caligula (A.D. 40) to Constantine the Great. Dugdale speaks of 'large stones, Roman brick, with ovens and wells, coins of silver and brass,' and adds that the earth of the site was darker and richer than elsewhere. Elias Ashmole in 1657 saw a foundation measuring 12 by 18 feet, which he took to be a temple. But later writers add very little except a few coins—a denarius of Mark Antony, another of Domitian, and copper of the late third and the fourth century down to Gratian—and it does not seem possible now to decide the precise position or the size or the character of the Roman settlement.¹ We can only say that our evidence indicates permanent inhabitation of some sort—perhaps a posting station, or perhaps a village. The situation of the place, at the crossing of Fosse and Watling Street, might suggest, at first sight, the probability of a large settlement. This argument has not much weight however by itself, and other cases might be quoted of Roman roads crossing with even less of a settlement at the Four Cross Roads than we seem able to trace at High Cross. In Hampshire, for instance, the road which runs south-west from Silchester intersects near Andover that which runs north-west from Winchester; and though the neighbourhood was well populated in Roman days, no definite traces of Roman inhabitation have been noted at the actual crossing.

Whatever its character, its name at least is known. The Antonine Itinerary² places Venonae at the point where Fosse and Watling Street cross, and it also assigns to Venonae distances from other places known

¹ Camden, ii. 297 (in Gough's ed. of 1806); Wm. Burton's *Leicestershire*, p. 72; Dugdale, i. 71; Elias Ashmole in Nichols' *Leicestershire*, i. p. cli. and *Bibl. Topogr. Britann.* vii. 287. For later writers see Stukeley, *Itin. Curiosum*, p. 110, ed. 2; Horsley, *Britannia Romana*, pp. 385, 420; Nichols' *Leicestershire*, iv. 125. Mr. Goodacre of Ullesthorpe has a denarius of Domitian and a late (? fifth century) coin from High Cross. Gough (*Add. to Camden*, ii. 303) and some later writers, mistaking Stukeley, have transferred to High Cross some burial urns which were really found at Monks Kirby (p. 238). I have omitted Camden's assertion that the site was once called Cleycester, because (as Dugdale observes) Camden is the sole authority for it: it occurs apparently in no documents or charter, and is probably Camden's own invention.

² *Itin. Ant.* 470, 4; 477, 3; 479, 4. The name occurs only in the oblique case Venonis: I have followed common usage in assuming a nominative Venonae—though, for all we can tell, it may have been Venoni or Venona. The orthography Venonis seems preferable to Vennonis: Bennones, Benonis are certainly corrupt forms. Some writers have evolved a tribe of Vennones, for which in Britain there is no kind of authority.

ROMANO-BRITISH WARWICKSHIRE

to us—Manduessedum and Bannaventa—which agree satisfactorily with the actual mileage. It is therefore natural that there should have been general agreement among archæologists since Camden to identify Venonae and High Cross.¹

(c) MANCETTER

Eleven miles north-west of High Cross along Watling Street, and east of the town of Atherstone, is the parish of Mancetter, and in it a Roman site. Its name and the mileage of the Itinerary justify us in identifying it with the Manduessedum of that document.² The now visible remains consist of a rectangular earthwork, lying half on each side of Watling Street, and therefore half in Leicestershire and half in Warwickshire (fig. 3). The northern or Leicestershire part is or was called



FIG. 3. MANDUESSEDUM AND SURROUNDINGS.
(From the 6-inch Ordnance Survey. Scale 1 : 10560)

Oufort Bank, the other Castle Bank. The total dimensions of the two are about 450 by 600 feet, and the total interior area is about 6 acres. It has been generally assumed that this earthwork is of Roman origin, and the assumption seems reasonable, though definite proof is wanting. It is not clear however whether it represents the whole or a part only of the Roman site. Stukeley, who visited it in 1725, heard of 'great stones and mortarwork exceeding strong, much Roman brick, iron, and

¹ Venonae, being on the edge of several parishes, has been variously described as being in Claybrook, or in Wigston, etc. Occasionally this variety of description has been mistaken for variety of identification, and hence it has been sometimes wrongly asserted that the site is uncertain or disputed.

² Itin. Ant. 470, 3. It is a Celtic name (D'Arbois de Jubainville, *Noms gaulois chez César*, pp. 127, 132) : the last *e* is to be pronounced short.

A HISTORY OF WARWICKSHIRE

great numbers of coins, brass and silver and some gold'—all found, apparently, inside the earthwork. Burton, a century earlier, thought that the settlement extended far outside, and alleges foundations near Mancetter church, half a mile to the west. He also cites coins from various places—bronze of Nero and the elder Faustina, found at Oufort Bank; a silver Vespasian, found near Mancetter church; a Carausius, found northwards in Witherley; a 'first brass' of Hadrian, found towards Atherstone. Recent writers only refer vaguely to coins, and do not increase our knowledge.¹ We have, then, evidence of permanent occupation, its extent and character uncertain. We may reasonably suspect a village or posting station. We might more rashly guess that the earthwork was a fort built in the early years of conquest, dismantled later and converted into a village. For certainties we must wait for excavation.

It may be convenient to add that a Roman pottery kiln has been found at Hartshill, two miles to the south, and alleged traces of Roman road-paving at Atherstone—both to be described in the index. It is possible also that a Roman road may have run direct to Leicester through Fenny Drayton.

The consideration of Mancetter has often been complicated by the introduction of another neighbouring site. This is the oval 'camp' at Oldbury, near Hartshill. It has been called the 'summer camp' of Manduessedum or even Manduessedum itself. It is, however, not of Roman origin and has yielded no Roman remains, while, so far as we know, Manduessedum was not a military place such as would require a 'summer camp.'

(d) CHESTERTON

Chesterton, four miles south-east from Leamington, stands on the Fosse, twenty miles south of High Cross. It is noteworthy, for, with the exception of High Cross, it is the only site on the Warwickshire part of the Fosse which seems to show traces of definite and permanent occupation in the Roman period (fig. 4). Here on low ground, close to a stream which skirts its western front, is an imperfectly rectangular earthwork, girt with a substantial ditch and traversed by the Fosse. The interior area probably measures 660 feet at its greatest length, 400 feet at its least, and contains about 8 acres.² The proportions of the ditch, as now seen, are very striking. On the north it is about 140 feet wide, and its bottom is 13 feet below the level of the interior area; on the south the width is about 110 feet and the depth 9 feet. The original ditch was probably much smaller than this. The site has been ploughed in former times, and for agricultural purposes the sides of the ditch must

¹ Camden, ii. 447; Burton's MS. quoted by Nichols, *Leicestershire*, iv. 1027; Dugdale, p. 1076 (coins); Horsley, p. 420 (coins); Stukeley, *Iter Boreale*, p. 20. Benjamin Bartlett's *Manduessedum Romanum* (London, 1791; cited also as vol. ix. in Nichols' *Bibl. Topogr. Britann.*) is little use. A survey of 1812 is printed in the *Trans. of the Birmingham and Midland Institute* (Archæol. section), (1900), xxvi.

² As in all unexcavated 'camps,' it is not easy to decide where the interior area ended and the ramparts and ditch begin, and the unusual proportions of the ditch make this decision harder at Chesterton than elsewhere.

ROMANO-BRITISH WARWICKSHIRE

have been ploughed down to a workable slope : thus the width of the ditch would be largely increased, though its depth might be lessened. But whatever allowance we make for this, it remains probable that the original ditch was large and formidable. It has been generally assumed that this earthwork, like that of Mancetter, is of Roman origin, though no definite proof exists. Dugdale and others state that Roman coins have been found within its area, and I am told that pottery and



FIG. 4. CHESTERTON CAMP.
(From the 6-inch Ordnance Survey. Scale 1 : 10560)

numerous coins, principally of the third and fourth centuries, have been discovered in the fields around it. Burials and burial urns are also said to have been met with near the 'camp,' and foundations a little to the east of it.¹ Four enamelled bosses have also been dug up somewhere hard by, but these, though often styled Roman, are of later date.

Chesterton thus closely resembles Mancetter alike in the size and the position of its earthwork on a Roman road and in the uncertainties which attend its explanation. The earthwork may be an early Roman fort, abandoned as the tide of Roman conquest swept swiftly north. Or, like Brinklow (p. 245), it may not be Roman at all. In either case, the late coins and burials seem to suggest a wayside village in the third or fourth century. But the spade alone can solve the problem. As for the ancient name of its site, it is wholly unknown.

¹ Dugdale, p. 470 ; West's *Warwickshire* (1830), p. 681 ; *Builder*, June 12, 1884 ; private information. For the measurements of the ditch I am indebted to Mr. G. B. Grundy.

A HISTORY OF WARWICKSHIRE

(e) ALCESTER

In its course through Warwickshire the Roman road called Icknield or Rycknield Street passes the little country town of Alcester, lying among flat meadows near the confluence of the Arrow and the Alne. Leland and Camden recognized the site as ancient; Dugdale was perhaps the first who realized its Roman character, and since his time numerous, though not very important, discoveries have been recorded. The principal finds seem to have been made in the fields called Blacklands which lie on the south and south-west of the present town, towards the sewage works and the village of Arrow. Dugdale notes that 'old foundations, Roman bricks and coins had been frequently found,' and that 'the greatest tokens of buildings' occurred in Blacklands and towards Arrow. The cemetery of the place lay apparently between Alcester and Arrow, near the spot called Grunt Hill. Here, for instance, was found about 1866 a stone coffin with two skeletons (one a later intrusion), which is now in the Warwick Museum, and other graves and burial urns have been noticed, though not properly recorded. Some noteworthy remains have also been discovered in other parts of the town. The Rev. J. H. Bloom tells me that bits of paving, thought to be Roman, were found when the Baptist chapel was built, in the north-east of the town. A curious monument is built up in a wall adjoining the rectory, west of the church. This is a much mutilated torso, 42 inches long by 20 inches broad, with face flaked off and legs lost. It appears to have represented a male bearded figure, dressed in a sort of tunic or chiton; the left leg is advanced, the left arm drawn back, and drapery depends from the left shoulder (fig. 5). The whole is too ill-preserved for safe interpretation, but it may, I think, be accepted as Roman. Its origin is unknown, but it was doubtless found somewhere in Alcester. Another interesting find was made about 1638 in the same locality, and is thus recorded by the Rev. Samuel Clarke, rector of Alcester and afterwards of St. Benet Fink, London, in a noteworthy passage :

[At Alcester] in plowing and digging, even until this day, are found many very ancient pieces of copper money, some of which I have, and among them one of *Vespasian* with *Judæa Capta* upon it. When I was Rector there, about 1638, my next Neighbour, whose house joyned to the Churchyard, being about to sink a Sellar, I lent him one of my men to assist him therein, and after they had digged about three or four Foot deep, they Encountered with two Urns not far asunder. In the one there was nothing but some ashes; the other was full of Medals, set edglong as full as it could be thrust : My man judging it only to be of that Copper-money which they find so oft about the Town, set it carelessly upon the ground by him : And the Town, consisting of Knitters, some of them coming to see the Work, picked out some pieces of this Money : At last one brought in a piece to me, which upon tryal I found to be Silver and thereupon sent for the Pot into my House : . . . In the midst whereof I found sixteen pieces of gold, as bright as if they had been lately put in, and about eight hundred pieces of Silver, and yet no two of them alike, and the latest of them above fourteen hundred years old : They contained the whole History of the *Roman* Empire from *Julius Cæsar* till after *Constantine* the Great's time : Each of the Silver pieces weighed about sevenpence, and each of the Gold, about fifteen or sixteen shillings [Geographical Description of all the Countries in the known World, by Samuel Clarke (London 1671), p. 167.]



FIG. 5. FRAGMENT OF ROMANO-BRITISH SCULPTURE.
(Alcester Rectory. Scale 1 : 10)

ROMANO-BRITISH WARWICKSHIRE

Coins still abound in the town. In a recent visit to Alcester I was shown six silver coins, of Hadrian, Sabina, Pius, Aelius Verus(?), Faustine and Constantine, and twenty 'third brass' of about A.D. 250–380, and I have heard of many others of similar dates.¹ From all this we may conclude that Alcester, at any rate during the latter part of the Roman period, was a village or perhaps a tiny town built by the side of a Roman road in a pleasant well-watered spot.

The Roman name of the place is unknown. The earlier spellings of the modern name—Alencestre, Alnacestre and the like—contain a *n* which has now dropped out, and this fact suggested to William Baxter, early in the eighteenth century, that the Roman name was Alauna. His theory was adopted by Bertram in his forgery of 'Richard of Cirencester,' and has since passed into maps and guide books. It is, however, a mere guess. Alcester appears in reality to derive its name from Alne, the name of the river on which it stands, and Alne itself may be descended from one of the very common Celtic names, Alauna, Alaunus and their kindred forms. That, however, would not prove that a town on the banks of the Alne was called Alauna, and, until more evidence emerge, it will be wise to give the site no ancient name.²

4. OTHER SETTLED SITES

We pass from remains which seem to suggest hamlets or villages or even a tiny town to remains which suggest something even smaller—a handful of isolated rural habitations. Of Roman villas properly so called Warwickshire contains no ascertained instances. The villa system was probably far less developed there than in many other districts. Not only was the population thin throughout the midlands and the ground largely covered with woods, but there was little in soil or climate to encourage the two staple industries of rural Britain, sheep farming and corn growing. We shall not therefore be surprised to find in Warwickshire few traces, and those faint ones, of villas or what may be villas. It is only here and there that we encounter evidence suggestive of small houses of the villa type. These houses are totally unexplored, like all other Roman antiquities in the county, and opinions about them must necessarily be conjectures, valuable (at the best) as working hypotheses. Still, we may argue, from the tenuity of their recorded remains, that they were small; and we may not unreasonably presume that they belonged to the same system which obtained over most parts of non-military Britain. We have four instances to cite.

¹ Leland (ed. Hearne), iv. fo. 168a; Dugdale, p. 761; Clarke, *ut supra*; N. Salmon, *New Survey* (1731), p. 506, gold coin of Vespasian; *Gentleman's Magazine*, 1785, ii. 941, urn from Blacklands; Gough, *Add. to Camden*, ii. 457, skeletons and coins on the Stratford Road; *Archæologia*, xvii. 332, burials in Blacklands, 1812; information from the Rev. J. H. Bloom and others. Warwick Museum has a sarcophagus found about 1866, and two urns (one containing ashes) from Blacklands. Mr. F. S. Potter has coins of circa 250–400 A.D.

² Baxter, *Glossarium Antiq. Britann.* (London, 1719), p. 10. If the name *Æluuinæ* in *Cartularium Saxonicum*, i. 287, refers really to the Warwickshire Alne, the identification of Alne and Alauna becomes definitely probable, but it seems very uncertain whether it does so refer (W. H. Stevenson)

A HISTORY OF WARWICKSHIRE

(1) Monks Kirby, six miles north of Rugby. Here Dugdale states that foundations of old walls and Roman bricks (some of which he saw himself) were dug up in his own time near the church. He mentions also 'three or four heaps of earth in an adjoining pasture' which he took to be graves. John Morton, the historian of Northamptonshire, describes some burial urns found at Monks Kirby not long before 1712. These urns were

repositd on a causey of broad pebbles running east and west: one of the largest of them had a Christ's Cross coarsely painted on the outside of it. They were each of them placed with their mouths dipping to the East and covered with a piece of slate. Within were ashes and calcined bones and a mixture of earth. [*History of Northamptonshire* (London, 1712), p. 30.]

Morton took these urns to be Roman and Christian, and the former is probable enough, though the latter is out of the question. A similar discovery—or the same, misdescribed—was made in 1716, when a dozen Roman urns covered with Roman bricks were found in digging a vault for the burial of Basil, fourth Earl of Denbigh. The three (or two) finds taken together seem to suggest at least the possibility of a villa here.¹ The occurrence of the name Walton in the neighbourhood may or may not increase the probability, for Walton and similar names, while they sometimes refer to the existence of old walls, are sometimes due to quite other origins.

(2) Snowford Bridge. Here, about 500 yards north of the bridge and near the east bank of the river Itchin, in Long Itchington parish, Roman bricks and tiles and common pottery have been often noticed, and are still to be found, though no account of the site has ever appeared in print. A few other small objects recorded from this parish may perhaps belong to this site.²

(3) Walton Hall. Here the grass field to the south of the house, called the Town Field, has been supposed to contain traces of Roman buildings. The Rev. G. Miller of Radway states that the late Sir Charles Mordaunt told him of these remains, and the Rev. Osbert Mordaunt states that Roman coins have been found there. The field itself is somewhat uneven, as if something lay beneath, but there are at present no surface signs of antiquities belonging to any special age.

(4) Kenilworth. Here Roman tiles have been found in or near the Chase woods, about a mile west of the castle. Some specimens have been in the Warwick Museum since 1858, and two are in the Andover Museum. A label attached to the latter states that the tiles seemed, so far as traced, to belong to two walls, each about 30 or 40 feet long, meeting at a right angle. A writer in the *Journal of the British*

¹ Dugdale, p. 74; Morton, p. 530; Stukeley, *Itin. Curiosum*, p. 110, ed. 2; Nichols' *Leicestershire*, iv. 126 note. The facts about the find of 1716 are not clear. Stukeley gives no place for it; Nichols gives 'the church of Newnham Paddox,' which might mean either the church of Monks Kirby or a chapel at Newnham Paddox, the seat of the Earls of Denbigh. No one seems to know where the fourth Earl of Denbigh actually was buried.

² Tiles in Warwick Museum; tiles and potsherds found by Mr. H. Fowler and by myself; information from the farmer of the site, Mr. Abell of New Fields Farm. For the other objects, see *Warwick Nat. Hist. and Archæol. Field Club*, 1878; *Warwick Archæol. Society's Reports*, 1866, p. 23; 1878, p. 7.

ROMANO-BRITISH WARWICKSHIRE

Archæological Association, 1877. (xxxiii. 281), alludes vaguely to Roman coins as 'found lately in Kenilworth.'

With this inadequate notice we end our meagre list. Doubtless there was never much villa life in Roman Warwickshire, but the carelessness of modern men has made that little seem even less.

5. ROADS

Romano-British Warwickshire, as we have described it, can hardly have required many roads for its internal communications. But the position of the county in the midlands is such that almost all who wish to cross our island from south to north—from London or Bristol to Lincoln or Derby or Chester—must necessarily touch at least its borders. Accordingly three roads will here concern us: Watling Street, the Fosse, and the Rycknield or Icknield Street. There are also some branch roads, and some supposed roads which probably are not real. We commence with the Rycknield or Icknield Street, because it requires a somewhat longer discussion than the rest.

(a) NORTH AND SOUTH ROAD THROUGH ALCESTER

By Rycknield Street¹ I mean the Roman road, or perhaps the continuous series of roads, which runs from the north past Derby, Lichfield, Birmingham and Alcester to join the Fosse at Bourton-on-the-Water. The Warwickshire parts of this route are easily traceable, and are still largely in use as field-track or road, except in and near the town of Birmingham. It is perhaps worth adding that its line scarcely ever coincides with a parish or county boundary. Its course from north to south is briefly as follows. It enters the county, running slightly west of south, at the Street station on the Walsall and Water Orton branch of the Midland Railway, and crosses Sutton Park. Here it almost but not quite coincides with the present county boundary, and its easily distinguishable track has long been noticed by travellers and antiquaries.² From the corner of Sutton Park (Royal Oak inn), it is represented for $2\frac{1}{2}$ miles by an existing highway, but at the crossing of the Tame Valley canal the highway bends, while the Roman road runs straight on, coincides briefly with the county boundary, crosses the Tame at Holford or Holdford, and so approaches Birmingham. Its course through that city and its suburbs is uncertain. We shall return to it in the next paragraph. Here we need only observe, first, that somewhere in this lost section its direction shifts from slightly west of south to slightly east of south, and secondly, that it may perhaps have here been joined by a

¹ I may state here that I use Rycknield Street in preference to Icknield Street purely as a matter of convenience. No doubt, if antiquity of usage is to be considered, the road was called Icknield Street before it was called Rycknield Street. But it will be apparent from my arguments that I doubt whether the road has any real and original right to either name; and if we style it Icknield Street, we risk confusion with the real Icknield Street in Berkshire and Oxfordshire. It seems best, therefore, to use the name Rycknield as being no less correct (or no more incorrect) than Icknield, and as having the advantage of being unmistakable. Probably it would be better still to avoid both names, were it not that preceding writers and common custom cannot be neglected.

² *Gentleman's Magazine*, 1762, p. 402; 1797, i. 110-13.

A HISTORY OF WARWICKSHIRE

Roman road from Droitwich.¹ We recover its definite traces near Stirchley Street and King's Norton, and thence its course is plain past Beoley, Studley, Alcester, Bidford and Weston Subedge. Near the last named village it mounts to Broadway Down and so reaches Bourton-on-the-Water and the Fosse. Between Alcester and Bidford, it is represented by an interesting hollow way through fields, and its hard metal has often been encountered by labourers. From Alcester, branch roads may have diverged to Stratford and possibly also to Droitwich (p. 243).

The span of seven miles from Holford, north of Birmingham, to Stirchley Street, south of it, is a more serious problem. It has long vexed Birmingham antiquaries, and is perhaps insoluble. If the well known lines of Ryckniel Street from Sutton Park to Holford, and from Alcester to near Stirchley Street, were produced straight on till they met, we should obtain a road running south by west through the western part of central Birmingham, passing a little east of Five Ways and a little west of Edgbaston church, then changing its direction to south by east near Stirchley Street, and so continuing towards Alcester. This line has not, however, yet commended itself to any writer on the subject. Stukeley, the first to notice the question in print, mentions a line which lies a long way east of the direct line. He says that in or after 1725 he saw Ryckniel Street running

by Moseley over a heath where the road appears now very broad, on the east side of the rivulet Rea: it descends Camp Hill and passes the river by the present bridge (*Liter Boreale*, p. 21).

This line is too far east to be probable, and indeed it is obvious that Stukeley simply took the Moseley Road to be the Roman line. The plain inference is that no recognized line of Ryckniel or Ickniel Street survived at Birmingham in Stukeley's time. Hutton, the old historian of Birmingham, writing in 1780, suggested a different line, curving away westwards. He describes the road as passing from Holford over Handsworth Heath, by Hockley Brook, Warstone Lane, across the Dudley Road at the Sandpits, down Ladywood Lane (since rechristened Monument Lane), past the Observatory, and thence, leaving Harborne a mile to the west, to Selly Oak.² He gives no reasons, and it is too likely that he had no good ones. Stukeley's words suggest plainly that no obvious and indubitable line for Ryckniel Street survived in the eighteenth century, and our confidence in Hutton's judgment is not increased when we find him proceeding to trace the street to Burford, Wallingford and Winchester. However, his line has been accepted by most local writers, and in general the Roman road has been stated to run by or near Trinity church, Birchfield, Villa Cross, Hunter's Lane, Ickniel Street, Monument Lane, Chad Valley and Metchley.³ The

¹ *Victoria History of Worcestershire*, i. 212. The road is not so well supported by evidence as one could wish.

² Hutton, *History of Birmingham*, p. 142 (ed. 1781)=p. 215 (edd. 1795, 1815).

³ Howard Pearson, *Birmingham and Midland Institute* (Archæol. section), 1890, xvi. 34; B. C. A. Windle, *ibid.* xxv. 43. For much information bearing on the whole question (utilized in the rest of the above paragraph) I have to thank Mr. J. A. Cossins, Mr. Jos. Hill of Perry Barr (who has told me much about the ancient streets), Mr. Howard Pearson and Prof. E. A. Sonnenschein. They are not, of course, responsible for the views that I have expressed.

ROMANO-BRITISH WARWICKSHIRE

evidence is not convincing. Neither discoveries of remains, nor the local nomenclature, nor the physical features of the country really aid us. No Roman remains have been found in Birmingham except a few coins (p. 244), and coins help little in such a case ; so far as they go, however, they favour a line east of Hutton's and nearer the direct line mentioned at the outset of this paragraph. A piece of ancient road was discovered about 1870 or 1875, near Chad Valley House in Westbourne Road, Edgbaston, and Mr. J. A. Cossins, who saw it, has told me that it was 5 feet underground, paved with large pebbles of local gravel, and was not in line with the commonly supposed direction of the Roman road. A well near Metchley, a bit of old road near Harborne Park Road, and some horseshoe draining tiles found in January, 1902, have all been called Roman, without the slightest reason. Nor do local place-names help us. Icknield Port Road is unquestionably a modern invention, and the title Icknield Street, as applied to the road connecting Hunter's Lane and Monument Lane, is not demonstrably old. Negative evidence is, of course, imperfect ; but I cannot trace the title back beyond 1825, and in 1553 a part, at least, of this road seems to have been called the Slade. The title Icknield Street may therefore have been introduced as a result of Hutton's theory. Certainly, if old names are to be quoted, Holloway Head should not be forgotten, though that would favour rather the direct line indicated in the third sentence of this paragraph. Nor again is it possible, amid the vast developments of a great city, to reconstruct the original hills and valleys and judge whether they were such as to divert a Roman road from its straight course. That kind of judging is always a dangerous speculation ; in this case it is best omitted wholly. After all, the straight course outlined at the commencement of this discussion is the simplest, and in default of other reasons the least improbable. Here we must leave the problem unsolved. It is not inappropriate that a characteristically modern city should have lost for ever the recollection of her most ancient road.

There remains another problem, almost as difficult as that which we have just dismissed. For convenience we have called the road Rycknield Street : we have now to trace out the tangled history of that name. We start from the similar name Icknield. Icknield Street, properly so called, is an ancient trackway through Berkshire and Oxfordshire, of which the course is still visible, and the name, under the form of Icenhylt or Icenhilde Street, is attested in documents earlier than the Conquest. It is not a Roman, but perhaps a British road, and so far we have here no concern with it. But we are concerned with its name. For when the antiquaries of the twelfth and following centuries began to treat of the so-called 'Four Roads,' they got hold of the name Icknield, obviously without knowing what exactly it meant. One of them said that it ran from east to west—which is roughly true—and another said that it ran from north to south. This latter was identified with our road ; not, so far as we can tell, because of any local name, certainly not because of any Icenī in the west, but probably because this road alone

A HISTORY OF WARWICKSHIRE

fulfilled the condition of a road from north to south. The views of the antiquaries spread abroad, and two Icknield Streets came into ordinary use as names, one for the Berkshire and Oxfordshire trackway, and the other for our road. Now it is just this intrusion of Icknield into the west that seems responsible for the appearance of Rycknield. That name is a misreading of Icknield, spelt, as often, with a prefixed 'H.' Thus much seems to be proved by the facts of the case. The first name given to the road was Icknield Street, and that name occurs in documents of the thirteenth century. A little later Rycknield emerges, first in the writings of Higden. He, like all other medieval chroniclers, mentions the 'Four Roads,' and he calls them Fosse, Watling Street, Ermine Street, and Rykeneld Street. Here Rykeneld Street usurps precisely the place which is given to Icknield Street by all Higden's predecessors and indeed by many after him, and the simplest and most natural explanation is that we have a misreading.¹ Hence arise two names for our road—Icknield and Rycknield. Both occur in charters and deeds, though the former is the commoner and also survives in various local names. It is the earliest, but by no means the only, instance in which the antiquaries have given its current name to an ancient road.

The road has however other names. North of Alcester it is occasionally called Headon or Haydon Way, and also Eagle Street—perhaps a corruption of Ickle, that is, Icknield Street. South of Alcester, between Bidford and Weston Subedge, it is called Buckle Street, and this is probably its oldest existing appellation. It is the modern form of a name Bucgan or Buggilde Straet, which appears in documents earlier than the Conquest, and which proves that the road was known in very early English days, at least between Bidford and Weston.²

(b) WATLING STREET, FOSSE AND OTHER ROADS

Watling Street is the name in use since Saxon times to describe the Roman road which ran north-west from London past Verulamium (St. Albans) to Viroconium (Wroxeter). Its course in general is certain, and not least in Warwickshire, where most of it is a county boundary and nearly the whole of it is still in use as a high road. It enters the county from the south at Dunsland, 4 miles south-east of Rugby, and from there to Mancetter it divides Warwickshire, first from Northamptonshire and then from Leicestershire. Between Mancetter and Fazeley

¹ So Thorpe. Guest, *Origines Celticae*, ii. 220, tries to defend the antiquity of the word Rycknield, but without meeting the real points of the case. The foundation charter of Hilton or Hulton Abbey in Staffordshire (A.D. 1223) mentions a Richmilde or Rikenilde Street near Stoke-upon-Trent—Richmilde according to Dugdale's *Monasticon*, v. 715; Rikenilde according to a seventeenth century copy in the British Museum, Harleian MS. 2060: I do not know where the original charter is. This suggests that a street-name somewhat like Rykeneld existed in Staffordshire before Higden, and this may help to explain Higden's statements. But that street near Stoke is far away from the road which is now under discussion.

² On Bucgan, Buggilde, see Napier and Stevenson, *Crawford Charters* (Oxford, 1895), p. 56. The name Buckle Street is still known to the country folk within the limits mentioned in the text. For instance, there are 'Buckle Street housen,' a mile north of Honeybourne railway station. The Ordnance surveyors also insert the name on Broadway Down, but this (so far as I can discover by local inquiries) is doubtful.

ROMANO-BRITISH WARWICKSHIRE

it runs through Warwickshire ; at Fazeley it crosses the Tame into Staffordshire. Constant use through many centuries has presumably destroyed almost everywhere its Roman paving. There is however a story that during the sewerage works at Atherstone in 1868 the old Roman paving was found at varying depths, marked with grooves of chariot-wheels and laid in slabs like those in the Forum of Rome. What truth underlies this tale is impossible and perhaps unimportant to discover. Certainly no such paving as that of the Via Sacra at Rome has been found elsewhere in Roman Britain, and slab-paving of any sort is rare on Romano-British roads.

(3) The Fosse is the name used since Saxon times for the road or series of roads which ran from Lincoln past Leicester, Cirencester and Bath into the west. Its general course is no less certain than that of Watling Street. In Warwickshire it is still for the most part used as a road or field-track ; for about half its course it forms intermittently a parish boundary. It enters the county at High Cross, passes Street Ashton, Stretton-under-Fosse, Brinklow (where perhaps later earthworks have been thrown across it), Chesterton and Halford, and leaves the county at Stretton-on-the-Fosse. Except at Chesterton, and perhaps at Halford (p. 246), it traverses no sites known to have been inhabited in Romano-British times.

The Romans seem to have drawn some distinction between the Fosse from Lincoln to High Cross and the Fosse from High Cross southwards. The former belonged to an itinerary route from Lincoln to London ; the latter has no place in the Itinerary. The reason is not now discoverable with certainty. It can hardly be connected with any distinction between military and commercial roads—for which distinction there seems, indeed, to be no proper warrant. But it suggests that the Romans did not regard the Fosse quite as we are inclined to do—that is, as a great through route from Lincolnshire into Somerset. It did serve that end, but in Roman times that was not its principal purpose.

(4) Lastly, we have to mention two branch roads, both short and doubtful. Possibly a road connected Alcester and Droitwich, though the assertions often made about it are too positive and the appellation often given to it, Lower Saltway, seems devoid of ancient authority. The line of the existing highway between the two towns, both Roman sites, is really the only evidence, and this, though not adverse, is not conclusive in favour of the road. Another road may perhaps have run from Alcester to Stratford. The existing highway between the two places is singularly straight, and where it once diverges (near Alcester) the straight line is taken up by a field-track. Moreover the name of Stratford, as Mr. Stevenson assures me, is genuinely old and may really indicate a Roman road. Unfortunately hardly any Roman remains, except coins, have been found in or near Stratford (p. 248) ; and, supposing the road to be Roman, there is no sort of indication of its further course east of Stratford. On the other hand we may reject without scruple the idea of a Roman road from Alcester to Warwick. No trace

A HISTORY OF WARWICKSHIRE

of this road exists, and no Roman remains have been found at Warwick which would justify any such a road (p. 249).

6. MISCELLANEOUS : INDEX

Villages, houses, roads, indicate some form or other of settled occupation. We pass on now to notice scattered finds, coins, potsherds and the like, which we cannot refer to any definite place in the civilization of Roman Warwickshire. Some of these finds, probably, are so imperfectly known to us that we fail to catch their significance. Others certainly seem to be due to chance. We shall therefore be content to summarize these in the alphabetical list with which our article concludes without wasting words on what must be idle speculation why or how they came to where they have been found. This list is intended to include all the principal sites on which Roman remains have been found, or thought to be found, in Warwickshire. Such sites as have already been fully described are indicated by references to the pages on which the descriptions occurred. For the rest, the sporadic discoveries just mentioned, I have briefly indicated the nature of the objects found and the chief printed or other authorities for them.

The items of most interest are perhaps those relating to Birmingham, Bubbenhall, Easington, Hartshill, Rugby, Stratford, Warwick and Wolfhamcote. Had the county been better explored it is likely that some, though not all of these, might have claimed a place in the earlier sections of this article.

I have omitted from this list, and indeed ignored through this article, a large number of earthworks which though often called Roman have no claim whatever to be considered such.

INDEX

ALCESTER.—Village : see p. 236.

ALVESTON.—See Tiddington.

ATHERSTONE.—Alleged paving of Watling Street : p. 243.

ATHERSTONE-ON-STOUR.—One 'third brass' coin of Constantine the Great [J. H. Bloom].

BADEN (BARDEN) HILL.—See Stratford-on-Avon.

BEAUDESERT HILL.—Alleged solitary fragment of Roman pottery, found 1807 : age doubtful. Near Henley-in-Arden.

BICKMARSH.—Coins of the Constantine period [J. H. Bloom].

BINSWOOD.—Coins vaguely mentioned by J. T. Burgess [*Proceedings of Warwick Field Club*, 1873, p. 11].

BINTON.—Coin of Allectus [J. H. Bloom].

BIRMINGHAM.—(1) Coins of Constantine period, found on the north side of Birmingham near Holford or Holdford, where the Ryckniel Street crossed the Tame. 'Camp' near the crossing, very doubtful [H. S. Pearson, *Proceedings of the Birmingham and Midland Institute* (Archæol. section), 1890, xvi. 36].

(2) Roman coins (dates not recorded) found in constructing a sewer at the junction of Dudley Street and Smallbrook Street, south of New Street Station [*ibid.*].

(3) Many coins—one a bronze Vespasian, Cohen 457—found June, 1816, by a man digging in a garden near the Jews' Burying Ground [*Concise History of Birmingham*, printed by Jabet (ed. 5, 1817), p. 18]. As the maps of Hanson, Kempson, etc., show, the Jews' cemetery in 1816 (and till 1823) was near what is now the Worcester Wharf, half way along Granville Street to the east of it.

(4) Gough [*Add. to Camden*, ii. 460], Reynolds, Brayley and Britton and others mention a Roman bridge, castle and coins. But this is a mere misreading of a passage in Hutton's *History of Birmingham*, p. 216, ed. 3. The remains really belong to Derby.

ROMANO-BRITISH WARWICKSHIRE

(5) An alleged 'camp' at Selly Oak (now indistinguishable) and an alleged well near Harborne seem to lack proof of Roman origin.

These finds show that Birmingham was not in any real sense an inhabited site in the Roman period. Wm. Baxter [*Glossarium Antiq. Britann.* (London, 1719), p. 46], gave the spot the name Bremenium, just as a guess, and the idea was picked up by Bertram in forging 'Richard of Cirencester.' It has of course no validity and is totally unworthy of credence: Bremenium itself was in Northumberland. For the line of Rycknield Street across Birmingham see p. 240.

BLACKLOW HILL.—Lord Algernon Percy of Guy's Cliffe has four coins (silver of Antony, Pius, Commodus, bronze of Nero) which were found in a drawer, wrapped in a paper marked 'Coins dug up at Blacklow Hill.' Other coins are believed to have been found with them but are lost and the date of the find is unknown. Blacklow Hill (in Leek Wootton parish) is close to Guy's Cliffe and Gaveston's Cross. [Unpublished.]

BRAILES.—Potsherds [R. F. Tomes].

BRINKLOW.—N. Salmon [*New Survey* (1731), p. 492] put Ratae here, but it is an impossible idea. The earthworks here are certainly not Roman, as all will agree who have seen them. The question whether the Fosse deviates to avoid them [*Archæological Journal*, xxxv. 114, etc.] can only be settled by excavation, but they seem to me to be planted across it [Dugdale, 218; W. G. Fretton, 'Staunton Folio,' *Birmingham and Midland Institute*, 1883, p. 35, plan of 1821; *Archæological Journal*, xxxv. 113, xxxviii. 435 (horseshoes, miscalled Roman); *Builder*, June 12, 1884; *Journal of the British Archæological Association*, xxix. 40].

BROWNSOVER.—Roman cinerary urn in chapel yard, recorded by Bloxam [*Rugby, the School and Neighbourhood* (London, 1889), p. 195; and *Rugby School Nat. Hist. Soc. Trans.* 1884]. The 'camp' here has no claim to be considered Roman.

BUBBENHALL.—Seven inscribed tiles found 1877 in demolishing a building supposed to be 200 years old. The inscriptions are identical and are a reproduction of the inscription found about the year 1600 at Bremenium (High Rochester), [*Corpus Inscriptionum Latin.* vii. 986]. The texture of the tiles, the forms of the letters and a mistake in the lettering prove these tiles to be modern productions; and comparison shows that they were actually stamped with the block (or a duplicate of the block) used by Camden [*Britannia* (1607), ed. 4] to illustrate the High Rochester altar. One tile was given to Trinity College, Cambridge, one to Warwick Museum, where I have seen them [*Notes and Queries*, fifth series, vii. (1877), pt. 2, pp. 28, 74, 133, 195, 436; *Archæological Journal*, xxxiii. 452]. Sir John Evans (in *Notes and Queries*) first suggested the original of the tiles, and Mr. S. M. Leathes, Fellow of Trinity College, confirmed this by comparing the tile in Trinity College Library with the illustration in Camden. I imagine that the tiles were fabricated early in the seventeenth century and more probably as a *jeu d'esprit* than as a forgery.

BUTLERS MARSTON.—Coins are said to have been found in the parish. There is a farm called Blacklands, but I am assured that nothing has ever been detected on it. See Combrook.

CAVE'S INN.—Hamlet on Watling Street: p. 230.

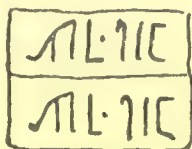
CESTERSOVER.—Various assertions have been made that this is a Roman site, but it is probably only a Saxon one. Stukeley [*Itin. Curiosum*, i. 112] mentions foundations, etc., at Old Town, though without calling them Roman; M. H. Bloxam in one of his earlier papers [*Birmingham Analyst*, 1836, iv. 179] speaks of Roman pavements and burials. But these, as he later saw, are Saxon [C. Roach Smith, *Collectanea Antiqua*, i. 38; Bloxam, *Proceedings of the Society of Antiquaries*, viii. 322, ser. 2; *Archæologia*, xlviii. 337]. The late J. T. Burgess stated that Roman pavements and late Roman remains were found during the construction of the Midland Railway from Leicester to Rugby in 1839 [*Journal of the British Archæological Association*, 1873, xxix. 40]. But I can get no confirmation of the statement though I have made local enquiries. The derivation of the name is doubtful. Mr. W. H. Stevenson tells me that Dugdale's 'the eastern over' is wrong, and that a derivation from 'ceaster' is unlikely.

CHESTERTON.—Village (?): see p. 234.

CLIFTON-ON-DUNSMORE.—Skeletons, beads, a jewel mounted in gold and a bronze bowl-handle, found in 1843, have been called Roman [M. H. Bloxam, *Associated Architectural Society Papers*, i. 229]. But the jewel was pronounced Saxon by Sir A. W. Franks and probably the whole find is Saxon. Mr. Goodacre of Ullesthorp has some of the things.

A HISTORY OF WARWICKSHIRE

- CLOUDESLEY BUSH.**—Tumulus on Fosse Way, two miles south of High Cross, now removed. Dugdale (p. 92), Stukeley [*Itin. Curiosum*, i. 111] and others took this to be the tomb of one Claudius, and the impossible idea still lingers in some books.
- COLESHILL.**—Copper coin of Trajan discovered among old foundations in Grimeshill field, north of the town [Dugdale, p. 1006; hence Gough, *Add. to Camden*, ii. 461, and others]. Possibly an unexplored Roman house.
- COMBE ABBEY.**—See Peter Hall.
- COMBROOK.**—Coins (1 Victorinus, 1 Helena, 5 Constantine, 1 Urbs Roma) at Brokehampton, near Butlers Marston [J. H. Bloom].
- COMPTON, LONG.**—Two coins: 'first brass' of Lucilla, 'second brass' of Daza [*Journal of British Archaeological Association*, xvii. 75].
- COVENTRY.**—'Second brass' of Nero, also 'regular pavement' under Broadgate, taken to be Roman in *Gentleman's Magazine*, 1793, ii. 787, and later writers. But as no other Roman objects have occurred in Coventry the pavement may better be called medieval.
- DUGDALE.**—Reynolds (p. 437) ascribes remains to a place of this name, but he means Coleshill.
- EATINGTON (ETTINGTON).**—Many coins, including a 'second brass' of the elder Faustina and and Constantinian 'third brass,' bronze fibula. Samian ware (**SATVRNINI·OF** and **SENTIA·M**) found in Eatington Park [E. P. Shirley, *Archæological Journal*, ii. 199, and *Lower Eatington* (London, 1869), p. 110; J. H. Bloom]. These finds can be connected with others made at Halford and in Worcestershire at Newbold-on-Stour, Talton, Arnscoate [*Victoria History of Worcestershire*, i. 220; *Proceedings of the Society of Antiquaries*, ser. 2, iv. 231]. The whole seems to indicate a rather denser population here than in most of Warwickshire.
- FENNY COMPTON.**—Much pottery (Samian, *pelves*, grey-blue common ware, etc.) was found in 1881 in draining the 'Great Ground,' a field about half a mile south of the village on the lane to Farnborough fields; some pieces resemble wasters from a kiln. [Information from E. R. P. Knott of St. Leonards, Burton Dassett, who showed me specimens.]
- FOLESHILL.**—Two hoards of fourth century copper coins in earthen jugs, found December, 1792, and January, 1793. The former comprised 1800 coins of Constantine I. and Magnentius; the latter, larger coins, better preserved but fewer, of the same period [*Gentleman's Magazine*, 1793, i. 83, and ii. 786, with plate of urn].
- GOODREST.**—Coins vaguely mentioned by J. T. Burgess [*Warwick Field Club Report*, 1873, p. 11]. Goodrest is 3 miles north of Warwick and a mile west of Leek Wootton.
- HALFORD BRIDGE.**—Coins of Gallienus, Probus, etc., found in a field called 'The Stones,' now in possession of Mr. T. S. Potter [J. H. Bloom]. Other small finds; see *Warwick Field Club Report*, 1878. The remains noted in *Gentleman's Magazine*, 1792, ii. 785, seem post-Roman. See Eatington, above.
- HAMPTON-IN-ARDEN.**—See Knowle.
- HARBOROUGH BANKS.**—Earthwork called Roman by Dugdale (p. 790); [Hannett, *Forest of Arden* (London, 1863), p. 12]; but not Roman. In Lapworth parish.
- HARTSHILL.**—Kilns found 1891-7 at the Caldecote quarries. Much pottery was noted in and round the kilns, a little Samian and dark grey ware, but principally cream-coloured *pelves* (*mortaria*) 10 to 15 inches in diameter stamped with various marks on the rims. One in Warwick Museum has the stamp



which is obviously an attempt to make a stamp without troubling about the letters. Prof. Windle records stamps **VDIO** and **SAR·R** but I fancy that these were not really so definite [Windle, *Proceedings of the Society of Antiquaries*, xvi. 405; *Builders' Journal*, April 7, 1897; *Warwick Field Club Report*, 1897, pp. 27, 100; pieces in Warwick Museum]. Bartlett [*Manduessedum Romanum*, p. 15] records that in 1773 a tumulus was dug up here and beneath was found a brick pavement 6 feet square with a hole at each corner. I do not know if this belonged to another kiln [see also Nichols' *Leicestershire*, iv. 1092, 1031; Brayley and Britton, p. 310].

ROMANO-BRITISH WARWICKSHIRE

- The occurrence of small kilns for the local manufacture of *petres* is common. These 'mullers' were cumbrous to transport and could not be used as wine jars or corn jars. They were therefore seldom exported, but manufactured as need arose locally. The manufacture on any one spot may have been a temporary affair of a few years. See *Corpus Inscip. Latin.* xiii. (3) p. 77.
- HIGH CROSS.**—Village (?) : see p. 232.
- HILLMORTON.**—Cup of grey ware, found in ballast-hole near canal [Rugby School Museum].
- ILMINGTON.**—Roman potsherds and coins, also small earthwork of uncertain age, near Pig Lane on Knebworth Common [R. F. Tones ; J. H. Bloom ; *Warwick Field Club Report*, 1892, p. 59].
- IPSLEY.**—Urn, of uncertain age [*Archæological Journal*, ii. 202]. 'Camp,' not Roman [Bloxam, *Birmingham and Midland Institute* (Archæological section), 1875, p. 38].
- ITCHINGTON, BISHOP'S.**—Coins, including denarius of Nero [W. Gardner].
- ITCHINGTON (LONG).**—Indications of house : p. 238.
- KENILWORTH.**—Indications of house, in the Chase woods : p. 238.
- KINETON.**—Coins (1 Claudius I., 4 Constantinian—copper) in Bankey meadow on the north side of the road from Kineton towards Banbury ; silver coin of Julian at Castle Hill [E. P. Shirley, *Proceedings of the Society of Antiquaries*, iv. 92, ser. 1]. The Rev. J. H. Bloom also records coins of Pius, Gordian I. (silver) and A.D. 250–350.
- KING'S NEWNHAM.**—Samian potsherd, bronze fibula, deer's horn, boar's tusk [Bloxam, *Birmingham Analyst*, 1836, iv. 180].
- KNOWLE.**—Hoard of 'third brass' (Gallienus, Salonina, Tetricus, etc.), in all 15 lb. weight, found in an urn in 1778 in the manor of Knowle [*Archæologia*, vii. 413 ; *Gentleman's Magazine*, 1795, ii. 988 ; hence Bartlett, *Manduessedum Romanum*, p. 12 note, and later writers].
- LADBROKE.**—Frequent coins, especially near Chapel Ascot and Hodnell [W. Gardner].
- LAWFORD.**—At Little Lawford, north of the Avon, three urns in circular cist of limestone found about 1815 [Bloxam, *Proceedings of the Society of Antiquaries*, vi. 346, ser. 2, and *Birmingham and Midland Institute* (Archæological section), 1875, p. 36 ; see also his *Rugby, the School and Neighbourhood* (London, 1889), p. 182].
- Potsherds, including an odd-shaped vessel of Samian ware 2 inches high (fig. 2), found on the south side of the Avon, in Long Lawford [Bloxam, *ibid.* ; Rugby Museum].
- LEEK WOOTTON.**—Mr. J. T. Burgess mentions a 'Roman goddess' as found here [*Warwick Field Club Report*, 1873, p. 11], but I do not know what he means.
- LIGHTHORNE.**—Coins (one of Allectus) near Warwick and Banbury Road [Ribton Turner, *Shakespeare's Land*, p. 316 ; W. Gardner].
- LILLINGTON.**—Potsherds found lately in gravel pit near church [Murray's Guide, p. 61 ; Mr. S. S. Stanley]. Those I have seen are not Roman.
- LOXLEY.**—Coin of Allectus found near Loxley House [Mr. Cove Jones].
- MANCETTER.**—Village (?) : p. 233.
- MARTON.**—Two silver coins [W. Gardner].
- MEON HILL.**—Bloxam mentioned a 'camp' and a 'magazine of Roman arms' here, in the Birmingham Analyst, 1836, iv. 185 ; later he gave them up.
- MILVERTON.**—Earthen urn with about 200 'third brass' found 1885. About sixty which were examined ranged from Gallienus to Probus [*Numismatic Chronicle*, 1886, p. 246 ; S. S. Stanley, *Warwick Field Club Report*, 1888].
- MONKS KIRBY.**—Villa and burials (?) : see p. 238.
- NUNEATON.**—Hoard of over 40 denarii, 2 Republican (Cassia, Livineia), the rest ranging from Vespasian to Marcus [*Numismatic Chronicle*, 1881, p. 307]. A small hoard of a common type : compare *Archæologia*, liv. 490.
- OFFCHURCH.**—Lady Aylesbury has at Offchurch Bury a number of 'third brass' of circa A.D. 260–400 and some minims, found probably in the neighbourhood : compare *Warwick Archæological Society Report*, 1876, p. 40, and *Field Club Report*, 1878, p. 2. The alleged 'Roman capitals' now in the porch of the Bury are modern.
- PETER HALL.**—Two small bronze heads, cast hollow and filled with lead, presumably part of a steelyard : found at Peter Hall near Combe Abbey. Samian potsherds (DIVIX) found about 1840 in Combe Park [Bloxam in *Associated Architectural Society Papers*, i. 228, 229 ; in *Birmingham and Midland Institute* (Archæological section), 1875, p. 35, and in *Proceedings of the Society of Antiquaries*, v. 303]. The heads are now in Rugby School Museum.

A HISTORY OF WARWICKSHIRE

POLESWORTH.—Hoard of small Constantinian copper round in earthenware urn at Aucote in 1762 [*Annual Register*, October, 1762 ; Bartlett's *Manduesedum Romanum*, p. 12].

Large hoard of denarii of Vespasian, Hadrian, Pius, the younger Faustina and others, found at Hall End in 1848 [*Journal of the British Archaeological Association*, iv. 151]. Compare Nuneaton.

PRINCETHORPE.—A denarius (DIVVS AVGVSTVS), small bronze head of bull, potsherds including a fragment of Castor ware [C. Roach Smith, *Collectanea Antiqua*, i. 37 ; Bloxam, *Proceedings of the Society of Antiquaries*, v. 303 ; Rugby School Museum]. The circumstances of the find are unknown. The objects have been recorded along with Saxon remains to which they need not and ought not to belong. Princethorpe is close to the Fosse.

RUGBY.—Plain hoop ring of bronze with Greek inscription on the inner or flat side of the ring. Bloxam gives the inscription as *Esunera Euneiske*. Mr. W. T. Watkin, who examined it carefully, read—

ESYNEPA EYNAICXE

The sense in either case is not at all clear, and I do not suppose either reading is correct. The ring was found about 1848 close to Mr. M. H. Bloxam's residence, St. Matthew's Place, Rugby [Bloxam, *Associated Architectural Society Papers*, i. 229 ; Watkin, *Archæological Journal*, xxxv. 67, 301 ; *Ephemeris Epigraphica*, iv. p. 211, No. 711. I do not know where the ring is now ; the curator of the Rugby School Museum assures me it is not there].

Toy hammer of bronze found about 1848 not far from the ring just mentioned : now in Rugby School Museum [Bloxam, *ibid.* and *Birmingham and Midland Institute* (Archæological section), 1875, p. 36].

RYTON-ON-DUNSMORE.—The 'Roman and British' urns found in 1848 [*Archæological Journal*, v. 217] seem all to be 'British.'

SALFORD PRIORS.—Coins and perhaps a burial urn are vaguely mentioned in F. White's *Warwickshire* and the volume of the *Birmingham and Midland Institute* (Archæological section) for 1895, xxi. 75.

SECKINGTON.—The earthwork here cannot be Roman and the idea that the place is the Roman Secandunum [*Birmingham and Midland Institute* (Archæological section), xxvi. 89] is ridiculous. No such name exists. For the earthwork see G. T. Clark's plan and description in *Archæological Journal*, xxxix. 373.

SNITTERFIELD.—Burial urn [*Warwick Archaeological Society Report*, 1869, p. 30].

SNOWFORD BRIDGE.—Villa : p. 238. In Long Itchington parish.

SOUTHAM.—Coins (1 Allectus, 2 Magnentius) found about 1850 in the Bury orchard below the church ; 2 denarii of Vespasian, 1 of Geta, 1 copper of Probus (Alexandrian mint) and others, found elsewhere in Southam [W. Gardner].

STOCKTON.—Coins, cup or urn [W. Gardner].

STONELEIGH.—Coins [W. Gardner].

STRATFORD-ON-AVON.—About 110 copper coins, found (it is said) at Cross-o'-the-Hill, south of the town, now in the Birthplace Museum ; about forty are said to have been found before 1800, the rest between 1800 and 1856. They are of all dates from Germanicus to Gratian, the later being commonest.

An urn of gold and silver coins (one of Magnus Maximus) is said to have been found here, or near here, in 1786 [*Gentleman's Magazine*, 1794, ii. 507].

Mr. Cove Jones of Loxley has a gold coin of Valens, said to have been found in Stratford. It may belong to this hoard of 1786.

About 1786 a Stratford labourer found a broken urn and three copper coins between Baden (Bardon) Hill and the river Stour, 1½ miles west of Stratford.

See also Tiddington (below) and for a possible road to Alcester, p. 243. Coins seem unusually abundant round Stratford, but not other remains.

TIDDINGTON.—Mr. Cove Jones of Loxley has about 100 copper coins said to have been picked up at intervals from 1846–56 on the 'Church Leys,' Tiddington. They include 1 'first brass' of Trajan, 1 'first' and 1 'second brass' of Pius, 1 Alex. Severus, several small coppers of 250–80 A.D. and many of 280–380, especially Constantinian. They may possibly belong to a hoard which had been broken up and scattered by the plough before it was noticed and which was therefore picked up piecemeal.

Mr. Cove Jones has also one Constantine said to have been found 1846 'on the Church lands, 1 mile from Stratford towards Tiddington' (? the same locality), and a silver ring with four coins (1 Constantine, 1 Magnentius) found on the 'Lench' fields between the Avon and the Stratford and Tiddington road in 1850.

ROMANO-BRITISH WARWICKSHIRE

WALTON.—House (?) : see p. 238.

WARWICK.—Some pieces of Samian (three in Warwick Museum, others *penes* Mr. Thos. O. Lloyd) are said to have been found with bronze tweezers, 'tearbottles,' etc., in the Priory grounds. The details of the discovery have not been recorded, but the tweezers suggest Saxon burials. [For such details as survive see *Proceedings of the Society of Antiquaries*, 1867, iii. 472, ser. 2 ; *Warwick Archæological Society Report*, 1867, p. 10 (each mentioning graves, but not the potsherds, tweezers, etc.) ; *ibid.* 1868, p. 23 (skulls and Roman pottery presented to museum) ; *Warwick Field Club Report*, 1873, p. 11, 1875, p. 12, 1876, p. 40.]

These potsherds appear to be the only Roman remains recorded from Warwick. Reynolds [p. 469] refers to coins, but too vaguely to be of use. The reputed Roman masonry under the clock tower in the castle seems not to be really Roman. The alleged road to Alcester is equally unproven. Dugdale (p. 372 note) seems to have been right in saying that Warwick was not a Roman site. Certainly the Roman name ascribed to it by Camden and accepted by many later writers, *Praesidium*, is a mere guess, utterly undeserving of acceptance. The only *Praesidium* known in Roman Britain was a small fort in Yorkshire [*Notitia Dignitatum Occid.* xl].¹

WATLING STREET.—Coins found in the Street, near Higham (1 silver of Trajan) [Burton's *Leicestershire*, p. 131].

WELLESBOURNE.—Burial urn found 1823 [*Warwick Archæological Society Report*, 1843, p. 12 ; Warwick Museum].

WESTON-ON-AVON.—Samian and other potsherds, small bronze boar, coin of Domitian, three Constantinian coins [*Warwick Archæological Society Report*, 1866, pp. 18, 23 ; Warwick and Worcester Museums].

WHITCHURCH.—A 'third brass' of Tacitus, found 1901 [J. H. Bloom].

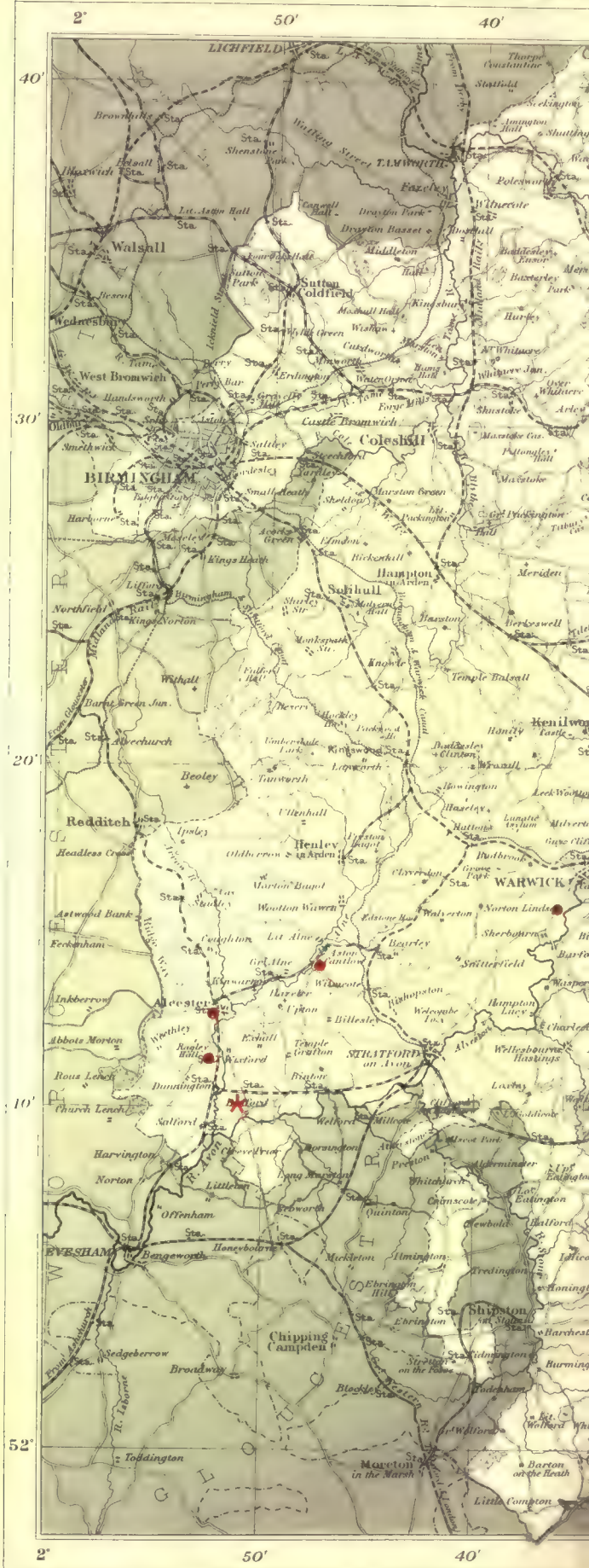
WILMCOTE.—Well (?), 9 feet diameter, regularly steyned ; containing horns and skulls of animals, potsherds, coins (1 Aurelian). Other wells (or pits) near [*Gentleman's Magazine*, 1841, ii. 81 ; *Journal of the British Archæological Association*, xxix. 41].

WOLFHAMCOTE.—At Sawbridge (Salbridge) in 1689 a well was found 4 feet square ; in it, 20 feet deep, was a large square stone with a hole in it, on which stood urns of grey ware. Twelve of these urns were taken out whole, and about twelve others were broken by the fall of a stone from above. Under the large square stone the well was sounded to a depth of 40 feet more, getting narrower as it got deeper, but no bottom was reached—and apparently no more urns were found [Dugdale, p. 308 ; Stukeley, *Iter Boreale*, p. 21 (vague) ; hence Gough, *Add. to Camden*, ii. 450 ; Reynolds, p. 460, etc.]. The account suggests that the urns were all originally perfect and arranged purposely in the well. Wells or pits containing urns which appeared to the finders to have been purposely arranged have been found in many places [*Victoria History of Norfolk*, i. 295, 296]. No satisfactory reason has ever been suggested to explain such a purposeful arrangement, and some competent judges have ventured to doubt whether the finders have not mistaken an accidental approach to symmetry for an intended symmetry of arrangement.

WORMLEIGHTON.—Wooden coffin, made of a tree trunk, and coins of Constantine found between Wormleighton and Staunton or Stoneton [Stukeley, *Iter Boreale*, p. 21 ; hence Gough, *Add. to Camden*, ii. 450, etc.].

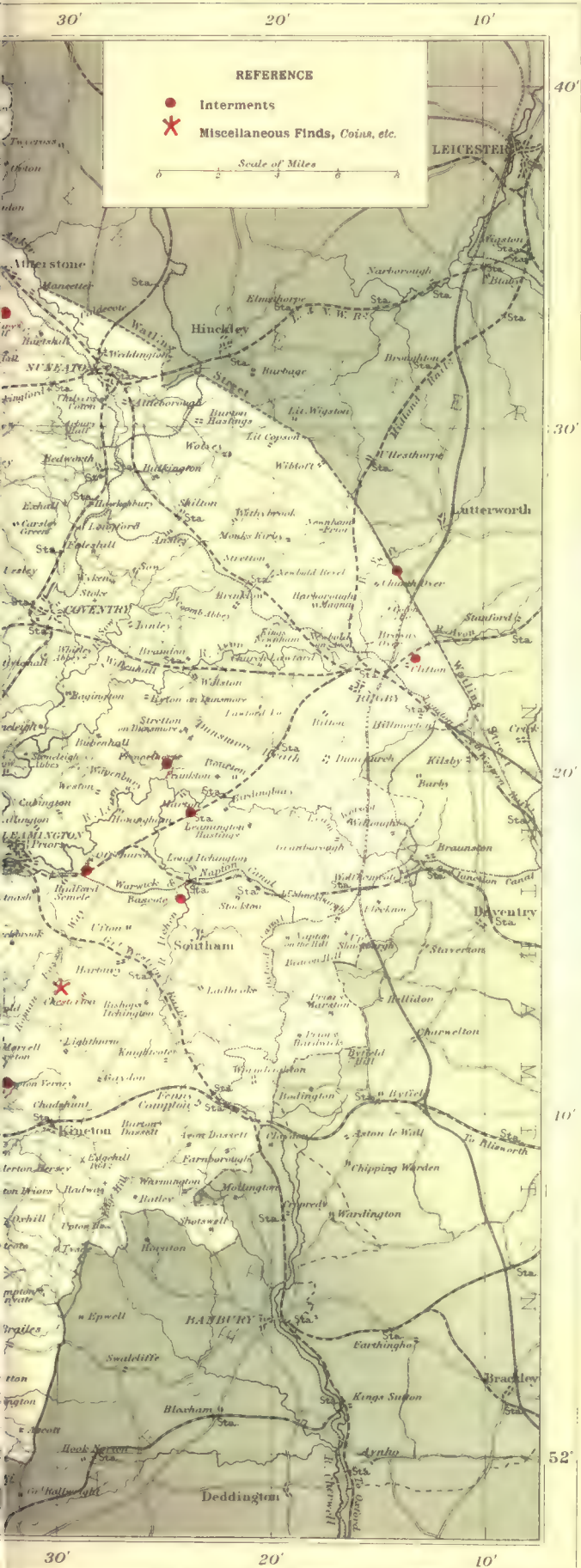
¹ Mr. Henry Bradley [*An English Miscellany presented to Dr. Furnivall* (Oxford, 1901), p. 15] conjectures that Warwick is the *Caer Wrangon* of Welsh tradition—the *Cair Guiragon* or *Guoeirangon* or *Guoranegon* of Nennius' list of xxviii. *civitates*. He takes *Wrangon* (that is, *Gwrangon*) to be the name, not of a person but of the Avon. The list is so obscure that it is hard to argue about it, but one would not expect to find in it a site which was not really occupied in Romano-British days.

It should be added that some nineteen Roman sepulchral inscriptions, now built into the wall of a bathroom in the Spy Tower of Warwick Castle, have no connection with Warwick and are not of Romano-British origin. Nothing is recorded of their origin save that they were found or detected when the lower court of the Castle was levelled in 1811, but one of them is known to have been elsewhere in England in the eighteenth century, and their appearance and epigraphic characteristics declare that they were brought originally from Rome. Great numbers of such inscriptions have been brought to England by travellers on their 'grand tour' or others, and many of these have been lost : some have even made their way deep underground. When rediscovered, they have often been taken for Romano-British antiquities (see the *Victoria Hist. of Hampshire*, i. 289, note 3 ; and my remarks in the *Classical Review*, v. 240). The Warwick Castle inscriptions have been examined by the late Dr. Hübnér and printed in the sixth volume of the *Corpus Inscriptionum Latinarum* : I have seen rubbings of all, and casts of several are in Warwick Museum.



The Edinburgh Geographical Institute

N REMAINS.



ANGLO-SAXON REMAINS

IF account be taken of the original aspect and extent of Arden, the Anglo-Saxon remains of Warwickshire now preserved in museums acquire a coherence that is certainly exceptional, and an interest that seldom attaches to isolated finds. A glance at the map will justify the statement of a well-known local antiquary that sepulchral relics of the pagan period are confined to the valley of the Avon. Perhaps the only exception is near Atherstone in the north, which must have been alien territory before the Anglian invaders from the north and east skirted the forest and founded the Mercian kingdom of the midlands.

It is difficult in these days and in this country to appreciate the sundering influence of such a forest as that which covered most of the county between the Avon and the site of Birmingham. The enlarged area of cultivation and the improved means of communication have annihilated the obstacles that to a primitive population must have been of immense importance. Friend and foe alike would find the transit irksome if not dangerous; and though great highways ran beside it, Arden must have hindered intercourse between the dwellers to the north and south of what is known to-day as Warwickshire.

Of the Rycknield Way nothing need here be said, as it only skirts the western border of the county; but during the post-Roman period an important part must have been played in the over-running of the southern midlands by the Watling and Fosse Ways that meet at High Cross. The latter road runs through the centre of the earliest settlements of the Teutons in the Avon valley, and not only determined to some extent the area of their occupation, but also seems to indicate at least one point at which the strangers entered the county.

Who these new-comers were may also be fairly conjectured from a comparative examination of the data furnished by history and archæology. The Venerable Bede, who wrote at the beginning of the eighth century, is our best authority¹ for the settlement of a people called the Hwiccii or Hwiccans in the Severn valley. They seem to have been an offshoot, and were certainly the neighbours, of the West Saxons; and from the extent of the pre-Reformation diocese of Worcester² it is permissible to

¹ *Ecclesiastical History*, bk. ii. chap. 2; bk. iv. chaps. 13, 23.

² The metropolis of the Hwiccan diocese (Kemble, *Codex Diplomaticus*, No. xci.).

A HISTORY OF WARWICKSHIRE

fix upon the eastern border of Gloucestershire as the dividing line between them so long as the West Saxon dominion centred in the upper valley of the Thames. The general similarity of the pagan relics discovered in the diocese is all in favour of a connection that is suggested by geographical considerations. A conquering people whose chief desire was to acquire the most fertile lands of the Britons would find no obstacle at the point where the Avon enters Warwickshire; and the occurrence of a certain kind of brooch at Bidford¹ and at other points further up the river shows a connection with the West Saxon Hwiccan, while the diocesan boundary included the southern part of the county with most of Worcestershire and Gloucestershire east of the Severn. The first bishop of the Hwiccan was consecrated about 679, and it is therefore to be expected that signs of paganism should here appear in graves that on archæological grounds may be assigned to the seventh century. As the heathen practice of burying arms and ornaments with the dead was gradually abolished, a lower time-limit is secured for the generality of graves so furnished; but there is something also to give the earliest date for Teutonic burials in these parts. If the early entries of the Anglo-Saxon Chronicle are to be trusted, the battle of Deorham in 577 marked the establishment of the West Saxons in what was afterwards to be the Hwiccan realm; and a century later the conquests of Ceawlin were ratified by the Church. It has been suggested² that Fethanleah, the site of an important battle in 584, should be looked for not in the neighbourhood of Chester, but rather in the Avon valley; and in the time of Offa, two centuries later, there was in fact a place Fæhhaleah not far from Stratford-on-Avon, which would be a likely spot for a Hwiccan victory if the advance took place up the river valley. The Fosse Way would also be a convenient route from the south-west, and enable the Saxons to occupy the part of Warwickshire south of the Avon that was long known as Feldon to distinguish it from the forest district to the north.

What may be regarded as a link between Romano-British civilization and the comparative barbarism of the Teutonic conqueror has come to light in the county. This interesting discovery was communicated by Mr. M. H. Bloxam to the Northampton and Warwickshire Architectural Societies in 1851,³ and was at that time attributed to the Romano-British period. Eight years before, some labourers had been employed to fill up an old gravel-pit about half a mile north-west of Newton Lodge, in the parish of Clifton-upon-Dunsmore, and in levelling the surrounding soil had found the remains of eight or ten human skeletons buried a little below the surface. Among the objects deposited with the bodies was the bronze handle of what in all probability had been a Roman skillet, such as have occasionally been found in interments.

¹ Two specimens of the saucer brooch are preserved in the museum of the Victoria Institute at Worcester, but no particulars of the discovery are available.

² By Rev. C. S. Taylor, *Trans. Bristol and Gloucs. Arch. Soc.* (1896-7), p. 254.

³ *Reports of Associated Architectural Societies* (1850-1), *Northants*, p. 229.

ANGLO-SAXON REMAINS

A suggestion was indeed made that the handle belonged to a mirror, but the find as a whole corresponds so closely with the relics from Desborough, Northants,¹ now preserved in the British Museum, that the question may be regarded as settled. A flat handle is characteristic of the skillets used by the Romans and apparently the Romanized Britons for sacrificial purposes,² and the present example was 6 inches long and an inch wide, terminating in a disc 2 inches in diameter, with a raised knob in the centre. From a mere fragment of the rim the diameter of the bowl was calculated to be about 6 inches, but the Desborough specimen, which had a handle of the same length, was 10 inches across. The vessel would by analogy have had a depth of 3 inches, and in shape was intermediate between a modern saucepan and frying-pan, though the bottom was slightly rounded.

In the same deposit was a bead of amethyst an inch and a quarter long, which was said to be of lilac-coloured transparent pebble; and a black stone, just over an inch in diameter, set in a looped circlet of gold, as was also an oval garnet, which measured rather more than half an inch in length. Other objects of the precious metal were a barrel-shaped bead of wire, five-eighths of an inch long and similar in shape to two smaller beads of silver, and two ornaments of conical form about a third of an inch in diameter, with a loop attached. Gold wire beads and garnet pendants set in the same metal were also found with the skillet at Desborough, only about eighteen miles from Clifton; and the parallel is too close to be entirely accidental.

An important discovery, which also finds a parallel in the adjoining county, was made in 1824 on the line of the Watling Street, about a mile from Cestersover, between Bensford (Bransford or Beresford) Bridge and the turnpike road leading from Rugby to Lutterworth. The road was under repair, and the labourers excavated a number of human skeletons which lay buried in the centre and on both sides of the road, at a distance of 18 inches or 2 feet below the surface. With them were found weapons, shield-bosses, and spearheads varying from 6 to 15 inches in length and retaining traces of the wooden shaft in the socket; knives and iron buckles, brooches of various shapes, clasps, rings, tweezers and feminine ornaments. The majority were of bronze, some few of silver, and there



CINERARY URN, CESTERSOVER
(CHURCHOVER).

¹ *Victoria History of Northants*, i. 238.

² A list and details of such vessels are given by Mr. Romilly Allen in *Archæologia Cambrensis*, ser. 6, i. 35.

A HISTORY OF WARWICKSHIRE

was also a variety of beads in amber and glass paste. One urn only was discovered: this was well fired, had been turned on the lathe, and was much ornamented. Close to the urn lay an iron sword, and across the mouth an iron spearhead, distinguished from the rest by a narrow bronze ring round the socket. Other pottery was found of a distinct character, comprising several cups capable of containing about half a pint each, imperfectly baked and in crumbling condition.¹

Of the objects figured from this site, two call for special mention as being of rare occurrence in Anglo-Saxon graves. One is a metal fragment described as 'an article of brass supposed to have been attached to a sword belt,' but its original breadth of $2\frac{1}{4}$ inches leaves little room for doubt that it was the chape of a scabbard, the longitudinal ribs on both sides having clearly been attached to the leather sheath, which has perished. Whether this fragment originally belonged to the weapon found near the urn just mentioned it is perhaps impossible to decide, but it is in itself a rare specimen, and is sufficient evidence that a sword was once deposited with it in a grave. The other piece of special interest is a circular brooch of the same metal, from which the settings have disappeared. No detailed description is given, but the form is enough to refer it to a type common in the late Roman period, and frequently found in localities yielding Anglo-Saxon relics. The original setting seems to have been a carbuncle, either oval² or circular; and while a find at Canterbury³ shows a specimen associated with ornaments richly enamelled in the Roman manner, the national collection contains examples of both shapes from Roman and Anglo-Saxon sites.⁴ The central cabochon has in most cases been lost, but a glass-paste imitation is found on some of the



JEWEL FOUND
NEAR RUGBY.

Roman examples; while the Teutonic fashion was to cut the stone or glass into thin slabs and set these on gold foil. An interesting example of such work has been found near Rugby,⁵ and consists of a gold stud, now somewhat damaged, with the centre ornamented in quadrants, and garnets inlaid in imbricated and step patterns, while the edge has oblong pieces of the same stones. This jewelled boss was probably intended to ornament a circular brooch, a buckle, or even a cup,⁶ and may have been subsequently attached as a pommel to a sword-hilt, as rough holes at the bottom and at two opposite points on the rim show that an unskilled hand has fastened it by means of a wire or metal band.

Coloured drawings of other brooches found on this site are given in Akerman's *Pagan Saxondom*, pl. xviii., including two long narrow speci-

¹ Roach Smith, *Collectanea Antiqua*, i. 41, where the cinerary urn is figured; other objects on pl. xviii. p. 36; Society of Antiquaries, *Proceedings*, ser. I, iii. 55; Bloxam, *Fragmenta Sepulchralia*, pp. 52, 53, 57; and *Monumental Architecture and Sculpture of Great Britain*, pp. 34, 44, 52.

² A specimen found at Ragley Park and noticed below seems to have been of this description.

³ Roach Smith, *Collectanea Antiqua*, vii. 202, pl. xx. fig. 3.

⁴ Long Wittenham and East Shefford, Berks; and Haslingfield, Cambs.

⁵ Preserved in the School Art Museum, and kindly lent for illustration by Mr. Thos. Lindsay.

⁶ Compare the Kentish jewellery, the Taplow buckle, and the Ardagh chalice.

ANGLO-SAXON REMAINS

mens of solid construction that are apparently of Anglian origin. Both terminate in a conventional horse's head, and the smaller of the two is of the realistic character noticeable on the earliest Teutonic imitations of the Roman brooch in vogue during the fourth century, somewhat resembling a crossbow. Of the others, two have some points of resemblance with specimens from Offchurch noticed later, and there was an example of the quoit-shaped brooch, as well as of the horseshoe or penannular form¹ similar to specimens found at Longbridge.

At Norton, twelve miles to the south in Northants, a very similar burial place came to light about twenty years later, during the excavation of a mound 2 or 3 yards wide and about a yard high, which ran by the hedge along the Watling Street. The level at which the bodies had been deposited was about 6 feet below the crown of the Roman road and about 25 feet from its centre, just outside the original embankment. The graves were in a single line, and contained, besides the skeletons which it is believed lay with the heads to the south, some formless pieces of metal and one rude bead of amber.²

The burials on the Roman road do not however belong to the main Teutonic district of the county, and more characteristic remains occur on the other side of Dunsmore Heath, in the valley of the Leam. During the construction of the Rugby and Leamington railway, Anglo-Saxon relics were found, about 1850, in an artificial mound of earth at Marton. Two of the urns then brought to light were bequeathed to Rugby School Art Museum by Mr. Bloxam of Rugby, who gave an account³ of this and other Warwickshire finds in 1851; and another urn, about half the size, is now in the museum at Warwick, with three shield-bosses from the same site. All were quite plain and of globular form, the larger specimens being 8 inches high and of about the same diameter, the smaller being 2 inches less. They were not made on the wheel, and could be easily distinguished from Roman pottery, specimens of which have also been met with in the county. The contents too showed that they belonged to another period and another people; for besides fragments of bones, there were two spearheads of iron and a fragment of the same metal, which was taken to be part of a sword, $2\frac{1}{4}$ inches wide. Neither the Romans nor the Romanized Britons buried weapons with the dead, and the presence of a long broad sword of the usual Anglo-Saxon type is quite in keeping with the brooches which were happily recovered from the mound. One was circular, with the face ornamented by means of a punch; this type is common enough in central England, and is not confined to a particular district, as the saucer-shaped brooch appears to be. Of this latter description there was a single specimen, found on the top of some bones in one of the urns. This direct association with the rite of cremation should be noticed, as even in the mixed cemeteries of

¹ These are figured in Baron de Baye's *Industrial Arts of the Anglo-Saxons*, pl. ix. figs. 1, 6.

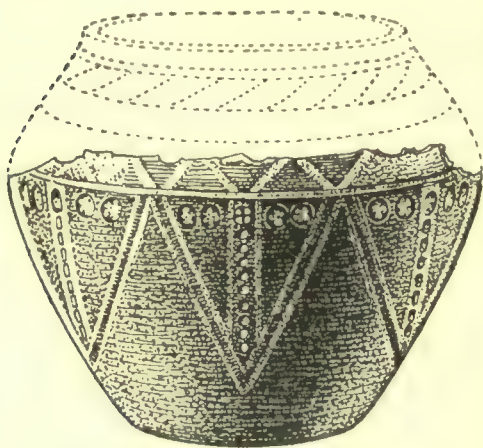
² *Archæologia*, xli. 479; *Victoria History of Northants*, i. 234.

³ *Reports of Associated Architectural Societies (1850-1)*, Northampton, p. 230.

A HISTORY OF WARWICKSHIRE

Fairford and Wittenham, brooches of this type are only known to occur in unburnt burials, and are almost exclusively confined to an area in which cremation was not the ordinary practice. A stray specimen has indeed been found at Sleaford, Lincs.,¹ the only one from 242 burials, six of which were by way of cremation. With this exception, Marton, just south of Dunsmore Heath, and Norton, in the neighbouring county of Northants, seem to mark the northern limit² of these brooches, which from their occurrence chiefly in the Thames basin may be looked on as peculiarly West Saxon; and the discovery of a specimen with a cinerary urn typifies aptly enough the intermingling of different tribes on what in all probability was for some time the borderland between them.

A brooch five inches long of pronounced Anglian type terminating in conventional horse's head was found³ with an iron spearhead and other objects on the site of a supposed Roman station on the Fosse road at Princethorpe on the north bank of the Leam. No further details were supplied by Mr. Bloxam, but an ornamented fragment of Roman pottery is figured on the same plate, together with what appears to have



CINERARY URN, BRINKLOW.

been the butt of a spear; these may possibly have been associated with the brooch and spearhead in a burial of the Anglo-Saxon period. Though common enough in the eastern counties, this class of brooch is not otherwise represented in Warwickshire, and may be regarded in connection with the few instances of cremation in this county as indicating the presence of a certain number of settlers or temporary occupants of the Leam valley who were more closely related to the Anglians of the north and east than to the inhabitants of mid-England.

On the same highway six miles to the north, traces of the Anglian site of cremation have also been found at Brinklow,⁴ and the urn here figured is from the glebe land there.

Ten miles to the south at Bascote, and about three miles from the Fosse Way, Saxon spearheads, a javelin or two and a knife have been found in quarrying for limestone, but no further particulars have been recorded.⁵ Westward beyond the Roman road, the site of the supposed Saxon cemetery at Offchurch flanks the direct road to Long Itchington, south of the church; and graves have been found as at Longbridge in

¹ *Archæologia*, vol. 50, p. 388.

² Two brooches, said to be of saucer shape (Wright, *Celt, Roman and Saxon*, p. 484), were found at Driffeld, E. R. Yorks, but according to one account (*Collectanea Antiqua*, ii. 166) were originally filled with enamel and belong to another category.

³ Roach Smith's *Collectanea Antiqua*, i. pl. xix. p. 37.

⁴ Bloxam, *Monumenta Sepulchralia*, p. 59.

⁵ *Journal of British Archaeological Association*, xxxii. 465.

ANGLO-SAXON REMAINS

digging gravel at the summit of the hill. Lack of supervision reduced the archæological value of the discovery, and the statements of the labourers cannot be implicitly accepted. The ordinary shield-boss, knife and spearheads were found ; but the brooches,¹ as usual, form the most interesting portion of the find. All the objects enumerated, however, may well have belonged to one or two interments, and do not in themselves prove the existence of a cemetery. Of the three bronze brooches figured in the original account,² one is of peculiar type. It is circular, in the form of a dish, having in the centre a flat-headed stud that projects about $\frac{1}{4}$ inch, while the edge of the slightly concave face is turned up at a decided angle all round. The ornament, which has been altogether lost, seems to have come away all in one piece, and may have consisted of enamel, mosaic glass, or garnet cell-work. It is quite distinct from the common saucer brooch and the type with embossed plate applied to the face ; and most resembles a specimen found in a barrow at Driffield, E. R. Yorks, and preserved in York Museum, though this was smaller and had no stud in the centre. The second is of a more common form (fig. 3), a flat disc with a swastika in open work. This is generally regarded as the sign of the god Thor, and the three brooches of this kind, like several found in Cambridgeshire,³ had no doubt been worn by adherents of the old faith.

The principal brooch (fig. 5) belongs to the ordinary square-headed type, but is more richly ornamented than usual, and when gilt must have been a striking addition to the costume. The chased portions present the tangled succession of detached limbs of a quadruped so often seen on ornaments of this period, but the attempt to represent the human features in relief is unusual and in this case fairly successful. The elaborate and well-executed decoration marks out this specimen as of fairly early date ; but comparison with a very similar but still finer example⁴ found in Denmark, and attributed to the end of the sixth century,⁵ would justify us in assigning the brooch, and no doubt also the Offchurch burial, to the middle of the succeeding century. There were in addition two cruciform brooches of ordinary patterns, and a few beads of amber and glass paste. Mention is also made of a small buckle of silvered bronze and a girdle-tag of the same metal ; but more important, as showing the currency of the period, are a number of *minimi* or 'third brass' coins of the Constantine period. The evidence, however, is vitiated by the suspicion that these were mixed up with others found near the Fosse Way on an earlier occasion ; and, in any case, coins of

¹ These have been kindly lent by the Dowager Countess of Aylesford, and two selected for illustration.

² *Journal of British Archæological Association*, xxxii. 466. As one brooch is only given in section and no scale is indicated, the illustrations are somewhat misleading.

³ Examples from Malton (British Museum), Linton Heath (Neville, *Saxon Obsequies*, pl. iii.) and Barrington (*Collectanea Antiqua*, vi. pl. xxxiii.) ; also Islip, Northants (Society of Antiquaries, *Proceedings*, ix. 90).

⁴ Figured in Sophus Müller's *Nordische Alterthumskunde*, ii. 210.

⁵ By Sven Söderberg, who also figures the Danish brooch, in *Antiqvarisk Tidskrift för Sverige*, vol. xi. pt. 5, p. 28, and *Prähistorische Blätter* (1894), pl. xii.

A HISTORY OF WARWICKSHIRE

this description would not help to date the burial which on other grounds may be referred to the close of the pagan period in this part of England.

In the museum of the county Natural History and Antiquarian Society at Warwick is a remarkable brooch¹ (fig. 6) found near the railway at Emscote Road, in the parish of St. Nicholas, Warwick. It is sometimes called the Myton brooch from the suburb of that name, and was discovered about 1852 by a labourer while digging a gravel pit, a section of which showed 2 feet of gravel overlaid by 9 inches of soil. It is supposed that there were several burials in the same locality, but no exact details are available, and all that is known about the find is that the brooch was associated with a skull, a large bead of crystal, and part of a silver ring ornamented with heart-shaped impressions made with a punch.

The crystal² is of unusually large dimensions with faceted surface and a central perforation that seems unnecessarily large for stringing as a bead, and accords better with the common interpretation of these objects as spindle-whorls. In this instance the edges show signs of wear, but objects of this class were probably intended rather for use than ornament, and the utilitarian nature of clay specimens with openings of the same size is obvious.

The Warwick Museum also contains five³ enamelled discs⁴ which are of special interest, as their origin and date are as yet unascertained. Reference to the plate will render a long description unnecessary, and a partial section (fig. 8A) will show the character of the hook attached to the ring surrounding two of the five pieces, the third of this pattern being without the setting. The design (fig. 8) is the same in all three, consisting of a graceful combination of three flamboyant spirals or trumpet-shaped curves, the sunk ground having been filled with enamels of two or more colours, including red and green.

These discs were used for attaching hooks to the side of a bronze bowl, the animal head just overlapping the rim and thus enclosing a loop perhaps for suspending the bowl by means of chains. So much may be inferred from extant specimens of the Anglo-Saxon period,⁵ as well as from analogous mounts on Roman bowls or buckets of the fourth century.⁶ It is also clear that it was usual to insert another enamelled disc within the foot-rim of the bowl, to be seen from below; and the two larger specimens found with the others at Chesterton, on the Fosse Way, were doubtless so applied. The pattern in this case (fig. 9) consists of eight closely wound spirals connected round a centre which was filled

¹ A coloured drawing is given in Akerman's *Pagan Saxondom*, pl. xx. fig. 1.

² Figured in *Journal of Archaeological Institute*, ix. 179.

³ Earlier accounts however mention only four.

⁴ Two are illustrated by kind permission of the hon. curators.

⁵ A list of known examples has been prepared by Mr. Romilly Allen, whose illustrated paper in *Archæologia*, vol. lvi., should be consulted.

⁶ See for example Dr. Grempler's *Der Fund von Sackrau* (Breslau), pt. 1, pl. iv. figs. 1, 2; pts. 2 & 3, pl. iv. fig. 6.



OPPEL TORIUS FSA

ACTUAL SIZE

ANGLO SAXON REMAINS FROM WARWICKSHIRE



ANGLO-SAXON REMAINS

with red or white enamel like the ground, or with a gem of some kind.

All the Chesterton discs may possibly have belonged to the same bowl, as the second large one might have been fixed to the bottom inside ; but no traces of the thin bronze vessel remain, and there is no detailed account of the discovery.¹ This is much to be regretted, as further light on this subject would be most welcome to archæologists. At present the evidence is a tangle of contradictions, and only a tentative conclusion can be arrived at in dealing with the Warwickshire specimens. Such enamelled mounts with or without the bowls have been found in eleven English counties,² and apparently only two specimens are known from Ireland ;³ yet in spite of the occurrence of five in Romanized Kent out of a total of sixteen, and of their scarcity in Ireland, it is hard to believe that they were not imported from beyond St. George's Channel. Again, though one such bowl has been found in an east-and-west burial on Middleton Moor, Derbyshire, another had been placed near the head of a skeleton at the north end of a grave⁴ at Barlaston, Staffs ; and though this would leave their Christian origin in doubt, the discovery of the Lullingstone bowl in Kent, and the constant occurrence of the disc-designs in the early illuminated manuscripts of Ireland, render their connection with the Church a practical certainty, while a negative proof is furnished by their absence from cremated interments.

Assuming therefore, in spite of some indications to the contrary, that the bowls were made or utilized by Christian ecclesiastics, it may be conjectured that they were introduced into this country by the Celtic priests of the Scotie mission, to whom we owe the conversion of the greater part of England ; and if reliance can be placed on the accepted date of the book of Durrow, the enamels may be referred to the seventh century, when the earlier trumpet-pattern (fig. 8) was giving way to the more purely Christian treatment of the spiral (fig. 9). But even if all this be granted it still remains for the antiquary to specify the use of these bowls and to explain why they are found not only in the graves of men and women alike, but also with the arms and accoutrements of the pagan warrior in England of the seventh century as well as in a Norwegian grave-mound of the Viking period.⁵

Ten miles to the south-west, where the Fosse Way enters the county by Halford Bridge, two separate discoveries have been made, but as the accounts are not very explicit and are devoid of illustrations, it is uncertain whether either of them should be attributed to the Anglo-Saxon period. In November 1790, three skeletons were found lying from south to north, with a bed of limestone above and below, about $2\frac{1}{2}$ feet below the surface. The most careful burial of the three con-

¹ *Journal of Archæological Institute*, ii. 162 ; *Journal of British Archæological Association*, iii. 282.

² In addition, a small fragment from Morden, Surrey, in the British Museum, and a bird-shaped mount with part of bowl from Basingstoke, Hants.

³ The designs are reproduced on title-page of J. O. Westwood's *Facsimiles of Anglo-Saxon and Irish MSS.*

⁴ A plan is given in Jewitt's *Grave Mounds and their Contents*, p. 259.

⁵ A bowl of the same kind but without enamel is figured in O. Rygh's *Norske Oldsager*, No. 726.

A HISTORY OF WARWICKSHIRE

tained three weapons : a spearhead, a sword 21 inches long, with remains of a wooden handle, and 'a small weapon with an iron handle.' This last may possibly have been the boss of a shield, and the 'pieces of broken armour'¹ mentioned may have been other parts of the shield, together with the customary knife. The second find occurred in 1858, and is of a still more indefinite character. In a stone pit at Armscot Field were found fragments of pottery in close proximity to horns of the red deer. The ware was coarse and imperfectly fired, and had neither been ornamented nor lathe-turned. It was however pronounced 'post-Roman, with more of the characteristics of Anglo-Saxon manufacture.'²

To turn now to more satisfactory contributions to the history of the district in pagan times. By far the most important discovery of Anglo-Saxon remains in the county occurred at Longbridge during the last days of 1875, and was fully described by Mr. Tom Burgess of Leamington.³ On the north bank of the Avon, about a mile due west of Warwick at an angle of the Castle park, a cemetery was accidentally revealed, and yielded relics that help to fill the gap left in the written history of the time. They were presented to the nation by Mr. John Stanton, and comparison of types assists in determining the affinities and era of the people buried here and elsewhere in the Avon valley. The skeletons were discovered about $2\frac{1}{2}$ feet below the level green turf, and not more than a foot in the coarse gravel of a slightly sloping bank that had evidently been thrown up by the river when its course was wider than at present. That the burials belonged to the early Anglo-Saxon period there could be no doubt, for here were the familiar shield-bosses of iron that protected the handle of the fighting man's 'war-board.' Here too were the iron spearheads and knives that commonly occur in male interments, and a number of brooches and ornaments that are more characteristic of the other sex. It was not however thought to have been a place of regular interment, and may have been on or near the site of a battle ; for though some of the bodies lay with the head eastward, others had evidently been interred in haste, with no regard to regularity. Some in fact were found immediately overlying others, and their haphazard disposal has been taken to show that these last were prisoners or slaves that had been slaughtered over a chieftain's grave.⁴ This is little more than a conjecture, though some with indications of riches had evidently been handled with great care. The position of the shields as shown by the iron remnants varied considerably in the graves, and in one case the boss was found above the skull. In this and other features the present cemetery resembles in a remarkable degree a number of interments opened on two occasions at Holdenby, Northants.⁵ There

¹ *Gentleman's Magazine*, Nov. 1792, lxii. 985. ² *Journal of Archæological Institute*, xviii. 374.

³ *Journal of British Archæological Association*, xxxii. 106 ; *Journal of Archæological Institute*, xxxiii. 378 ; and a list of the objects is given in *Proceedings*, Society of Antiquaries, ser. 2, vii. 78.

⁴ This may possibly have been the case with two of the burials at Halford Bridge mentioned above.

⁵ *Victoria History of Northants*, i. 246 ; *Miss Hartshorne's Memorials of Holdenby*, p. 6 ; and *Athenæum*, Nov. 11, 1899.

ANGLO-SAXON REMAINS

also the bodies appeared to have been buried regardless of position, and the personal ornaments were in many respects almost identical. For instance, some iron rings of various sizes found with female skeletons at Holdenby correspond with bronze examples at Longbridge, which may thus be considered part of a woman's costume at the time. Signs of wear on the inside go to show that the ring was firmly attached to the clothing to hold something that hung from the waist. Again, some of the brooches are strikingly similar, and are all represented in the Holdenby find, as are also the key, commonly known as a girdle hanger, and the small brooch of horseshoe form (fig. 4).

The sword and bronze-mounted buckets from Longbridge find no parallel in the Northants cemetery already referred to, but are not of unusual occurrence in that and other counties of England. The view that swords were carried exclusively by the thane while the spear marked the ceorl who fought on foot has never been disproved, and is in fact supported by documentary evidence as well as by the comparative rarity and magnificence of graves containing the sword. In this particular case the weapon retained traces of the wooden scabbard and its ornamentation, and while at Bransford Bridge the bronze chape alone remained, here the remains were sufficient to show the original form of the handle and scabbard. The total length was 2 feet 10 inches, and the blade was $2\frac{1}{2}$ inches broad from the guard almost to the point. The pommel seems to have consisted of two parts: a wooden bar surmounted by a square piece of bronze brought to a point. Such pyramidal buttons are rarely met with but are uniform in size and construction, and a notable example may be seen in the British Museum from a grave at Broomfield, Essex. The hilt and guard had decayed, but the narrow bands of bronze at the mouth of the scabbard still remained in position, as on specimens from Kempston, Beds, and the Isle of Wight in the national collection.

The buckets, which are generally supposed to have contained food or drink for the benefit of the dead, had certain peculiarities. In one the ordinary staves of wood were replaced by bronze, ornamented on both sides with beading and held in position by three hoops of the same metal. Of the other two buckets, the larger one was $7\frac{1}{2}$ inches high: its five hoops of bronze were fastened to the upright strips of plain bronze by square-headed rivets, producing a chequered appearance, and inside a piece of linen about an inch square was fastened to one of the staves. The fabric was of excellent thread finely woven, and adhered firmly to the wood, which was also in good condition and appeared to be yew. Vessels of this kind are found either at the head or feet of the dead, and are most frequent in the central parts of the country, from Fairford to Peterborough and from Warwick to Devizes. Little however can be deduced from their geographical distribution, and it may be that some future explanation of the linen patches will decide the ceremonial significance of the buckets themselves.

The brooches however seem to furnish more exact indications of

A HISTORY OF WARWICKSHIRE

the territorial divisions which were imposed by natural features and recognized by the Teutonic invaders and settlers of south Britain during the post-Roman period ; and in the present case enable us to connect the Warwickshire Avon with the upper valley of the Thames. West of the Severn, history and archæology alike point to the continued predominance of the native element ; but, as already mentioned, geographical considerations at that early date rendered tribal intercourse in this region almost impracticable. While therefore there is nothing surprising in the absence of early Anglo-Saxon remains on the right bank of the Severn or in its valley above the Avon, every discovery in the south-east of Warwickshire, of Worcestershire and of Gloucestershire adds weight to the theory that here and in Oxfordshire was centred a tribe or group of tribes whose funeral customs and personal ornaments mark them off as a separate people.

It is to this district that the saucer-brooches are practically confined, and of the common type, all in one piece with incised ornament and gilt face, specimens were found at Longbridge. One pair had a geometrical design in the form of a star, and on a couple more was a band of spirals (fig. 1), recalling the wedge-like engraving (the German *Keilschnitt*) that is often met with on late Roman ornaments¹ (450–550). As uncommon varieties of the saucer-brooch, may be mentioned two specimens found with the largest of the three buckets already described. They too were made out of the solid and gilt ; but while the others had geometrical designs incised, these had a ring of the usual dislocated quadrupeds surrounding a small piece of garnet, or glass intended to resemble that stone so popular at the time (fig. 2). Once more a parallel may be found in the neighbouring county of Northampton, for a similar specimen from Kettering is preserved in the Northampton Museum.

Further excavation produced a glass drinking cup, a part of which in the British Museum shows it to have been similar in shape to one found at Kempston, Beds, in 1863 ; also a cinerary urn of more than usual size and with impressed ornament in chevrons on the shoulder, now restored and preserved in the same collection.

But in point of magnificence the last grave opened at Longbridge was the most important of all. Instead of the usual relics of a warrior, were recovered the costly ornaments of a lady of distinction. Of her skeleton nothing remained but a few teeth scattered in the ground, but she had worn a cruciform brooch which in size² perhaps surpasses any yet found in this country, but in workmanship is far inferior to others of the same type, as for example one from Ragley Park presently to be noticed. The deceased had also a silver bracelet formed of one strip of metal originally 15 inches long, and bent so as to form a double hoop, expanding on one side to a width of $1\frac{1}{2}$ inches, with six flutings. This

¹ A. Riegl, *Die Spättrömische Kunst-industrie in Österreich-Ungarn*, plates xvii.–xxii.

² It is $7\frac{1}{4}$ inches in length ; one found in North Trondhjem, Norway, and figured in Rygh's *Norske Oldsager*, No. 259A, measures over 9 inches.

ANGLO-SAXON REMAINS

may be compared with specimens in the British Museum from Malton, Cambs,¹ and Long Wittenham, Berks, the ornament on all consisting of stamped patterns produced by means of punches, as was that of another piece of jewellery from the same grave. There was found a disc of gold (fig. 11) 2 inches in diameter, which had evidently been attached to a necklace,² doubtless composed of the amber beads that also came to light.

The bracteate, of which these are examples, is familiar to the student of northern archæology, and is mainly restricted to a certain period and area. They are seldom found outside the Scandinavian countries, and apart from specimens that clearly belong to a later date, are referred unquestionably to the centuries between 450 and 650.³ This of course only limits the date of their manufacture, but it is unlikely that so thin a disc of soft gold, exposed as it was to friction and accident, would last more than an ordinary lifetime. The present example is damaged near the loop and considerably rubbed, but a close examination enables the design to be distinguished sufficiently to range it with a particular Scandinavian series. It now weighs 5 dwt. 11 grains, and has an embossed design, the concentric borders being executed by means of punches. The stamps no less than the central device had doubtless a religious signification, but for our present purpose the style of execution is of primary importance. The row of dots near the centre is seen on the large majority of specimens, and may be regarded as the lower outline of the helmet, which with the head it covered generally occupied a large share of the field. Below was an animal resembling a horse, though sometimes horns are distinctly visible. The figure which is represented by the helmeted head is seen, like the horse, in profile, usually to the left, and sometimes on either side of the rider are seen runic characters and a bird of indeterminate character. This combination of symbols has enabled some of the leading antiquaries of Scandinavia to identify the figures and explain the symbolism from their voluminous mythological records. Even if it were possible to decipher the present specimen, its interpretation would here be out of place, for there can be little doubt that the Longbridge bracteate was imported from Scandinavia, and can only by accident throw light on the early condition of the inhabitants of Warwickshire. Suffice it then to say that one of the common types of the gold bracteate is here represented; and as most of them were connected with the legend of Sigurd,⁴ and many bear the swastika of Thor, their origin may be sought in the cult of heroes, among whom the greatest ranked as the national deities of Scandinavia.

It is possible to range the more common forms in order of chronology,

¹ See also *Collectanea Antiqua*, vol. vi. pl. xxxiv.

² Figured in *Journal of Archæological Institute*, xxxiii. 380.

³ *Mémoires*, 1850-60, p. 291; 1866-71, pp. 323, 361; Sophus Müller, *Nordische Alterthums-kunde*, ii. 193.

⁴ *Mémoires de la Société des Antiquaires du nord*, 1866-71, pl. xvii. figs. 4-11, p. 344.

A HISTORY OF WARWICKSHIRE

and a starting point is afforded by the rude but obvious imitations of Roman coins that may be assigned to the fourth and fifth centuries. A more native art that had profited from contact with Roman craftsmanship may be seen in the realistic treatment of national legends ; and the degraded forms, which are certainly the more numerous, may be assigned to the late sixth or early seventh century.

In the same grave at Longbridge was found a silver bracteate (fig. 7) which is now fragmentary but was ornamented in a more purely mechanical way by means of two punches. In spite of this difference however it is contemporary with the specimen of gold which may be taken to mark the open profession of paganism at the time of this particular burial ; and as no obvious emblems of Christianity have been found in the Saxon graves of Warwickshire, it may be argued that some at least of the remains discussed in the present chapter may well date from the seventh century.

Rare as bracteates are in this country, apart from the peculiar examples frequently met with in Kentish graves, Warwickshire has produced yet another, which from internal evidence must be assigned to a somewhat later date than those just described. This is now preserved in the museum of national antiquities at Copenhagen, but its story was laid before the Society of Antiquaries of London in 1774. It is of gold, with a milled or cabled border (fig. 10), and was found on the neck of a skeleton at the base of a grave-mound at Compton Mordock, now known as Compton Verney, near Walton. In the same mound was another skeleton with a second gold pendant,¹ which is ornamented with applied gold wire, having in the centre a stone or glass-paste, and closely resembling a specimen in the British Museum from Wye Down in Kent.

A century and a quarter ago there were fewer opportunities of comparison than now exist in the extensive museums of Scandinavia, and there is ample excuse for a faulty attribution of this valuable relic in the original account of its discovery. The mistake was indeed corrected in 1855, and two years later the bracteate was published in the *Atlas*² of the Copenhagen Museum on a plate devoted to specimens of a similar character. The descriptive list of the collection was issued in the *Mémoires*³ of the northern antiquaries, and rightly compares the Compton example with a sceatta that must however be regarded as subsequent to the year 600 rather than as 'current among the English Christians a little after the fall of the (western) Roman Empire.'

The Compton bracteate is an obvious imitation of a coin called the sceatta, current between the time of Æthelbert's conversion and the introduction of the penny by Offa of Mercia, some time after the middle of the eighth century. This allows about 150 years for the coinage of these small and somewhat thick pieces, numbers of which have been

¹ This and the bracteate are figured in *Archæologia*, iii. 371.

² Pl. iii. No. 31 ; the original sceatta is figured beside it.

³ Vol. for 1850-60, pp. 203-93 ; see especially pp. 232-3.

ANGLO-SAXON REMAINS

published ; and within these limits numismatists distinguish three styles¹ that seem to characterize successive periods. First in point of time come the sceattas struck in imitation of Roman coins of the fourth and fifth centuries ; then copies of Frankish money ; and lastly, examples of Anglo-Saxon origin, that perhaps on one face betray their indebtedness to Roman or Frankish originals, but otherwise reveal a growing sense of independence on the part of the native moneyers.

The sceatta from which the Compton bracteate was derived belongs to this last class, the roundels² on the reverse occurring down to the time of Offa on other specimens that are known to be contemporary, and the bracteate under discussion supports the view that the native types of sceattas were the latest. Though the characters in imitation of the Latin legend are meaningless, there is still some internal evidence of date. A cross supported by two standing figures occurs on certain Byzantine coins down to the twelfth century ; but as the sceatta was in all probability current in Mercia at the time the bracteate was made, there can be little doubt that the type was derived from coins of the Eastern Empire struck between 650 and 750, especially by Constantine Pogonatus (659-68). Allowing a few years for the stages of transmission, it is clear that the Compton burial cannot be earlier than the last quarter of the seventh century.

Some characteristic relics were found with a skeleton about Easter, 1851, in the Mill field, nearly a quarter of a mile to the south of Aston Cantlow church, and to the left of the road leading to Sydenham Ford.³ The burial was upon the brow of a hill, about a foot beneath the surface, the head raised somewhat above the feet. The skeleton was complete and appeared not to have been previously disturbed, so that the objects recovered may be taken to represent the complete array of ornaments. The head faced the north, and the hands seemed to have been folded over the breast. As neither weapons nor iron objects of any kind accompanied this interment it may be supposed to have been that of a woman, the ornaments consisting of two gilt saucer-shaped brooches, one on either shoulder, a buckle lying on the chest, and below it a white stone bead, which may possibly have been a spindle-whorl. Though numerous coins and a paved pathway have been found at Mill Hill and in the adjacent fields from time to time, there was no record of any other interment of this period.

More than sixty years ago a female skeleton was discovered in the boundary fence of Ragley Park at Alcester.⁴ Associated with this were some interesting antiquities of the early Anglo-Saxon period. The small iron knife is usually found in graves of either sex, but the richness of the ornaments and the absence of weapons alike testify to the sex of the

¹ *Catalogue of Anglo-Saxon Coins* (British Museum), vol. i. p. xviii.

² Examples in *Catalogue of Anglo-Saxon Coins* (British Museum), vol. i. pl. iv. figs. 2, 13 (reverse) ; the cross with supporters occurs on same plate, figs. 4 (reverse) and 17 (obverse). All these are attributed to Mercian kings.

³ Society of Antiquaries, *Proceedings*, ser. 2, iii. 424.

⁴ *Ibid.* v. 453.

A HISTORY OF WARWICKSHIRE

deceased. Two bronze brooches of the radiated type, just over three inches long, are such as most commonly occur in Kent but are of continental manufacture, and, as imported articles, are occasionally found in other parts of England, as for instance in Hunts,¹ Cambs,² Suffolk and Lincs.³ What was described as part of an elliptical buckle is probably a brooch of Roman make, set originally with a large stud of glass paste in imitation of a carbuncle. The dimensions agree with those of a specimen from the Anglo-Saxon cemetery at Long Wittenham, Berks, and now in the British Museum; while what was apparently a circular example of similar character has been found in Warwickshire, and can also be paralleled in the national collection. These may be regarded as survivals from the Roman period of a pattern that the Saxon peoples did their best to imitate; but a remarkable specimen of native art came to light in the same grave, and has been published in the *Archæologia*, vol. xlv. pl. xviii. This is a bronze brooch 7 inches long, with the front originally gilt and the ornament in relief much clearer than is generally the case. It is of the square-headed variety, which is mostly confined to the Midlands⁴ but also occurs in Norfolk and the Isle of Wight, while on the continent it is common in Denmark, Sweden and Norway, as well as in south-west Germany. The ornament shows that the English specimen is as usual comparatively late, and exhibits a remarkable falling off from the best and earliest specimen attributed to the early part of the sixth century.⁵

The four angles of the head have slight projections, the upper ones containing pear-shaped spaces left unengraved, which doubtless represent the stones or glass pastes that are still found on the St. Nicholas specimen (fig. 6) and others from Norfolk. The lower part has three lobes enclosing similar spaces and is joined to the head by a bow on which is a circular stud, while from the top of the bow to the lower lobe runs a ridge that has been considered an Anglo-Saxon characteristic. The surface decoration consists of the heads and limbs of grotesque animals constantly met with in that period, but an unusual feature of the Ragley brooch is the occurrence of the perfect quadruped with the head turned backward and the jaws gaping. Here and there also occurs what is usually regarded as a rude representation of the human face.

It is possible that this large square-headed type, of which the Ragley brooch is the best specimen in this country, is of Mercian origin,⁶ but more discoveries of the kind can alone settle the question. Examples from unburnt burials at Chessell Down, Isle of Wight, and at Brooke and Kenninghall, Norfolk, seem to be exceptional, and may well belong to the period of Mercian supremacy in both districts dating from the middle of the seventh century.⁷

¹ *Journal of British Archæological Association*, new ser. (1899), v. 346.

² Neville, *Saxon Obsequies*, pl. 8.

³ Both in British Museum.

⁴ Leicestershire, Gloucestershire, Cambridgeshire, Northants.

⁵ Sven Söderberg, *Prähistorische Blätter* (1894), fig. 10.

⁶ This and several Isle of Wight types have, however, been found at Herpes, Dept. Charente, France.

⁷ *Victoria History of Norfolk*, i. 345.

ANGLO-SAXON REMAINS

In 1812 the discovery of two urns in a piece of ground called 'Black Lands' near Alcester was reported to the Society of Antiquaries.¹ At a little distance from the smaller of the two was found the skeleton of a man 'measuring nearly 7 feet.' By his left side had been placed a long straight sword, which upon being moved broke into fragments. It is said that human skeletons had been frequently met with in digging for gravel, and were generally about 3 feet below the surface. Roman copper coins were of common occurrence in the fields adjoining the town, and it is not at all certain that the urns mentioned above as well as similar specimens unfortunately destroyed by the workmen were not of Roman date and manufacture. In any case this is very slender evidence that both methods of disposing of the dead were adopted by the Teutonic settlers of the district, and it is now impossible to determine whether the urns were of the smaller kind commonly found in unburnt burials of the Anglo-Saxon period, as no measurements or other details appear in the account of the discovery.

Such are the discoveries that show a certain light on the post-Roman occupation of the tract of country now known as Warwickshire, or at least of the southern part of it which was watered by the Avon and its tributaries and served by two Roman roads. Here are found traces of a people that must have been in close contact with the Teutonic conquerors of the southern midlands, from the lower Severn to the Chiltern hills, and also of another tribe, more or less connected in blood but probably advancing from the north-east coast, who burnt their dead and foreshadowed the southern expansion of Mercia.

But an exception to the general rule has now to be noticed. In a prehistoric barrow excavated in 1824 at Oldbury near Atherstone was found a secondary interment, which may without doubt be referred to the Anglo-Saxon period. It was on the east side of the barrow, which at the time of exploration was about 20 feet in diameter at the base, rising in the centre to a height of about 15 feet; and the iron spearhead and shield-boss² which determine the character of the grave were found with human bones 2 feet from the surface. This is the usual depth for pagan burials of the Anglo-Saxon period, but the mounds raised over them were seldom more than a foot or two above the ground. In the first place, this locality is isolated from what were undoubtedly the main seats of the Teutonic conquerors of the county and appears to have a northern connection. According to one historian,³ the Forest of Arden was bounded by an imaginary line from High Cross to Burton-on-Trent, and Oldbury would thus be on the fringe of a difficult district right in the path of an invader from the valley of the Trent or Soar. That the interment in question is of a distinct origin is further suggested by a feature that has been frequently observed in

¹ *Archæologia*, xvii. 332.

² These are figured in Roach Smith's *Collectanea Antiqua*, vol. i. pl. xiv. figs. 5, 6 (see also pp. 33, 38); Bloxam, *Monumenta Sepulchralia*, p. 22, where the discovery is said to have been in 1835.

³ Wm. Smith, *History of Warwickshire*, p. 2.

A HISTORY OF WARWICKSHIRE

Yorkshire. The exploration of British barrows on the Wolds has incidentally brought to light a number of secondary burials that must be assigned to the Anglo-Saxon period. The absence of ornaments renders a more precise date inadmissible, but with the Mercian kingdom the political history of Warwickshire may be said to begin ; and where the pagan relics of the grave cease to appear, the written page takes up the record.

DOMESDAY SURVEY

Assessment of the county, p. 269—King's revenues, p. 270—Church lands, p. 273—Tenants-in-chief, p. 276—Under tenants, p. 281—English predecessors, p. 282—Classes of men, p. 284—Legal antiquities, p. 286—Warwick, p. 289—Rural economy, p. 291—The Hundreds, p. 293—Identification of manors, p. 294—Duplicate entries, p. 296.

THE Warwickshire portion of the Great Survey is interesting and fairly full. In proportion to area the county occupies about as much space in Domesday as does Worcestershire to its west, less than Northamptonshire and Leicestershire to its east, but considerably more than Staffordshire. The chief features of interest in its survey are found in the light it throws on local financial administration, the names of the persons to whom it introduces us, and the religious houses, English and foreign, holding land within its borders. But as the Domesday Survey was before all a record of the assessment to 'geld' (land-tax), it is with that aspect of its contents that the student has first to deal.

Warwickshire was one of the hidated counties, that is, of those which were assessed in 'hides'; but it actually adjoined on the north-east the group of 'carucated' counties of which Leicestershire is a striking example. The assessment of these latter was based on units of six or twelve 'carucates,' while that of the former was similarly based on units of five or ten 'hides.' The duodecimal and the decimal systems were brought into sharp contrast; Leicester, when the king set forth to war, sent him twelve of her burgesses; Warwick sent him ten. It was, I have urged, the Scandinavian region, the counties settled by the Danes, which thus reckoned in twelves.¹ This conclusion, one may fairly say, is confirmed by the local place-names, such characteristic forms as Rugby, Wibtoft and (Monks) Kirby being found close to the Leicestershire border, as are Barby, Kilsby, and Yelvertoft in the adjoining and hidated county of Northants. We may say, therefore, that Domesday bears clear witness to the existence of a real dividing line between Warwickshire and Leicestershire, a line that marked the limit of racial conquest and settlement.

But although Warwickshire was assessed in 'hides' the basing of its assessment on arbitrary units of five or ten hides is less obvious to the eye than in several other counties. The *proportion*, however, of such assessments is too high to be accounted for on any other hypothesis. For instance, in the adjoining Domesday Hundreds of 'Tremelau' and

¹ See *Feudal England*, pp. 69 et seq.

A HISTORY OF WARWICKSHIRE

'Honesberie,' we note in the former—with a total assessment, according to Mr. Walker,¹ of 150 hides—that Eatington (Upper and Lower) was assessed at 20 (17 + 1 + 1 + 1) hides, Walton at 15 (5 + 10), Compton Murdak at 10 (7 + 3), Butler's Marston at 10, and Barford, Lighthorne, Chadshunt, Wasperton, and Moreton Morrell at 5 each, thus accounting for more than half the total assessment of the Hundred. In 'Honesberie' Hundred Dasset was assessed at 25 (15 + 10) hides, Priors Hardwick at 15, Fenny Compton at 10 ($4\frac{3}{4} + 2 + 3\frac{1}{4}$), and Arlescote, Ratley, Newbold Comyn, and Mollington at 5 each, some two-thirds of the Hundred being thus demonstrably assessed on the five-hide system. Where the assessments are fractional and not suggestive of that system, it is probable that groups had been formed, as we know to have been sometimes done, to complete a perfect unit. As examples of the five-hide unit in other parts of the county, one may take Church Lawford, Long Lawford, Bishop's Itchington, Dunchurch, Stretton-on-Dunsmore, Radford Simele, Bourton-upon-Dunsmore, Bubbenhall, and Wappenbury, each of which was assessed at exactly 5 hides.² An interesting illustration of the working of this system in practice is found in the charter of Henry I. which reduced the assessment of Alveston in favour of the church of Worcester, from 15 hides to 10, that is to say by one of these five-hide units.³ The arbitrary nature of such assessment is shown by this example. Before leaving the subject of assessment we may note that 'inland,' which was land free from contributing to the 'geld,' is mentioned at Offord (in Wootton Wawen) and at Lighthorne.

The list of holders of lands is headed as always by the king, but the manors in which he had succeeded his predecessor were few. In the south of the county Edward the Confessor had held Bidford, with its water meadows on the Avon, and Kington,⁴ with Wellesborne Hastings as its appendage (*berewick*). Stanley with Kenilworth in the heart of the county, and Coleshill in its northern portion, complete the list of his possessions. These are distinguished from the rest of those which his successor held at the time of the Survey, namely the forfeited lands of Earl Eadwine, by two peculiarities. In the first place, the number of plough-lands in each manor is omitted; in the second, its value. We know little of the system on which the returns were made for the king's manors in 1086,⁵ but in the case before us the omission of values appears to be due to the fact that in the preceding column they are, as one may say, 'lumped in' with other sources of revenue, all of which were

¹ See 'The Hundreds of Warwickshire at the time of the Domesday Survey,' by Benjamin Walker, A.R.I.B.A. (*Antiquary*, xxix. 146-51, 179-84). This valuable paper contains an analysis of each Hundred.

² The system of the five-hide unit occasionally affords a clue in the work of identification, as will be seen from the notes to Mr. Carter's translation of the text.

³ 'H. Rex Angl. comitibus et omnibus baronibus et ministris suis de Warewicasire salutem. Clamo quietas imperpetuum Priori et monachis de Wirecestria v hidas de Alvestun de geldis et murdris et omnibus regiis exactionibus,' etc. *Registrum Prioratus B. M. Wigornensis* (Camden Soc.) p. 85a.

⁴ *Alias* Kineton.

⁵ It is noteworthy that in the transcripts of the original returns from the Cambridgeshire Hundreds, which are so rich in detail, no information whatever is given on the royal manors, for which it seems to be implied there was a separate return.

THE DOMESDAY SURVEY

'farmed' together. The evidence of Domesday that in this county, as in the adjoining one of Worcestershire, royal manors were 'farmed' as a group is of very great importance as bearing on that system of the 'firma comitatus' which plays so large a part in early administration and finance.¹ But the special and indeed unique value of the Warwickshire evidence is that it carries back the system to days before the Conquest and thereby flatly contradicts the *Dialogus de Scaccario*.²

In view of the extreme importance of these Warwickshire entries one cannot too closely scan their exact wording. The royal revenue from a county, apart from taxes, was derived normally from three sources, (1) the king's lands; (2) his rights in the county town; (3) his profits from jurisdiction (known as the pleas of the shire). There is no question that under the Conqueror this last item was among the sources of the farm³; but I am of opinion that it was so also under Edward the Confessor. For if the passage (in the footnote) be carefully read it will be found to enumerate distinctly three sources of revenue: (1) the *vicecomitatus*; (2) the *burgus*; (3) the *regalia maneria*. Now in the adjoining county of Worcestershire (fo. 172)⁴ we find similarly enumerated three sources: (1) the *comitatus*; (2) the *civitas*; (3) the *dominica maneria regis*⁵; and here, luckily, Domesday explains that *comitatus* stands for the profits of the pleas in the courts of the county and the hundreds.⁶ This then I believe to be also the meaning of *vicecomitatus* among the sources of revenue in Warwickshire under Edward the Confessor.

But the Worcestershire evidence helps us further in our study of the Warwickshire payments. In both counties we find precisely the same sums, £10 for a hawk, £1 for a sumpter horse, and £5 to the queen, and the Worcestershire evidence shows that they were paid in respect of the profits of jurisdiction.⁷ In Warwickshire, however, there is a further payment of £23 'pro consuetudine canum,' for a parallel to which we must turn to the adjoining county of Oxfordshire, which paid precisely the same sum 'pro canibus,' in addition to the other payments, while Northamptonshire, also adjoining, paid £42 'ad canes.' In Bedfordshire again £13 10s. in all was paid by three royal manors 'de consuetudine canum,' but this, as in the case of some Gloucestershire manors, is distinct from the payment of such a due in respect of the whole county.

Recapitulating the evidence, we find that in 1086 the farm of the royal manors and the pleas of the county brought in jointly (1) 145 pounds of weighed silver, (2) the above £23 for the hounds, (3) the

¹ See *The Commune of London and other Studies*, pp. 72-3.

² 'Tempore regis E. vicecomitatus de Warwic cum burgo et cum regalibus maneriis reddebat lxxv libras, etc.' Compare *Dialogus de Scaccario*, ed. 1902, p. 36.

³ 'The latter farm included "pleas of the county," and thus is strictly parallel with the farms on the Pipe Rolls' (*ibid.*)

⁴ See *V.C.H. Worc.* i.

⁵ 'Reddit vicecomes xxiii lib. et v. sol ad pensum de civitate, et de dominicis maneriis regis reddit cxiii lib. et iiii sol. ad pensum. De comitatu vero reddit xvii lib. ad pensum, et adhuc reddit x lib. denariorum de xx in ora aut accipitrem norresc, et adhuc c solidos reginæ ad numerum, et xxⁱⁱ sol. de xxⁱⁱ in ora pro summario.'

⁶ 'Hæ xvii libræ ad pensum et xvi lib. ad numerum sunt de placitis comitatus et Hundretis.'

⁷ See preceding note.

A HISTORY OF WARWICKSHIRE

additional £16 already described.¹ Beyond this, however, there was a payment in those measures of honey which play so important a part in the Crown dues of Domesday. And the nature of this payment is by no means easy to ascertain. What Domesday actually says is that under the Confessor the total payment was £65 and thirty-six *sestiers* of honey, or £24 8s. 'for all the things that belonged to the honey,'² while at the time of the Survey the render was twenty-four *sestiers* of honey 'cum majori mensura,' and from the borough six *sestiers*—the *sestier*, that is, for fifteen pence—of which the count of Meulan receives six *sestiers* and 5s.³ Here at least we are on sure ground; for at fifteen pence to the *sestier* the count's share was equivalent to ten out of the thirty, that is, to the comital third.⁴ But this reckoning, it will be observed, is wholly incompatible with the sum of £24 8s. as the equivalent of thirty-six *sestiers*.⁵ The words, however, 'all the things that belonged to the honey' seem to point to the obscure 'consuetudines mellis,' which occur at Ipswich and elsewhere in the three eastern counties. So far as the number of *sestiers* go it is interesting to find that at Warwick the unit seems to have been six. For while twelve *sestiers* were due from Gloucester, Oxford, Norwich and Ipswich rendered six apiece. Colchester, however, and Thetford paid no more than four each.⁶

In addition to these sources of revenue derived from his predecessor, King William had reserved for himself most of the forfeited estates of the local earl. This was Eadwine, son and successor of Earl Ælfgar of Mercia, and grandson of the famous Earl Leofric, to whom the church at Coventry owed many of its lands. Warwickshire was but one of the counties comprised in Eadwine's earldom, but his official rights and revenue for each county were distinct. On these it was William's practice to seize when the earldom was vacant by its owner's forfeiture. The third penny of the pleas of the shire and that of the issues of the county town were the normal perquisites of the earl; that is to say, they were the share he received of the local revenues if he received any. Here again the Warwickshire evidence is of institutional importance. For in the latest edition of the *Dialogus de Scaccario*⁷ the learned editors observe that—

It would appear, therefore, that the third penny of the pleas is the final remnant of the judicial functions of the earl, and is originally due to the Frankish empire. Whether this imperial institution reached the England of Henry II. through William the Conqueror, or whether it came with earlier importations from the same source, admits as yet of no exact determination.

¹ 'Modo inter firmam regalium maneriorum et placita comitatus reddit per annum cxlv lib. ad pondus,' etc.

² 'xxxvi sextaria mellis aut xxiv lib. et viii sol. pro omnibus quæ ad mel pertinebant.'

³ 'Præter hæc reddit xxiv sextar' mell' cum majori mensura et de burgo vi sextar' mell', sextar' scilicet pro xv denar'. De his habet comes de mellent vi sext' et v. solid'.'

⁴ This was not, however, the 'earl's third penny,' which came from the pleas of a shire or the issues of a borough.

⁵ The other money equivalent of the *sestier*, viz. in Wilts, is even lower than in Warwickshire, a shilling instead of fifteen pence.

⁶ At Colchester, as at Warwick, the money commutation seems strangely high.

⁷ Oxford University Press (1902), p. 205.

THE DOMESDAY SURVEY

Our record however states definitely that in King Edward's time 'the third penny of the pleas of the shire' was held with Earl Eadwine's manor of 'Cotes'¹ (near Warwick). And this Warwickshire evidence is confirmed by that for Dorset, where the earldom had been held by Harold, to whose manor of 'Piretone' (Puddletown) there was similarly annexed the third penny of the pleas of the shire.² These two entries are sufficient to establish the fact that the institution of the earl's 'third penny' of the shire was older than the Norman Conquest.

The rights of Earl Eadwine in the borough of Warwick, which had similarly passed to William, will be dealt with under Warwick itself, but one may here note that of his manors the Conqueror kept in his hands Brailes, Coton and Sutton (Coldfield), while scattering 'Ulverlei,' Budbrooke, Erdington, Aston, Myton and Bedworth among half a dozen tenants-in-chief. Considerable as had been the earl's estates those of his house had been larger still; manors at Ipsley and Aston Cantlow had been held by his father Ælfgar, while his grandfather Leofric had denuded himself of sundry rich lordships in favour of his great foundation at Coventry. Domesday again records as the land of the Countess Godiva (Leofric's widow) manors at Alspath, Atherstone, Coventry itself and other places. The curious statement found under Oxfordshire that 'from the land of Earl Eadwine in Oxfordshire and Warwickshire the king has £105,'³ appears to be irreconcilable with the detailed valuations of his manors in those two counties.

To the revenue derived from the lands entered under *Terra Regis* we must add, at the time of the Survey, the 'farm' of the manors which Earl Aubrey and Countess 'Godiva' had held, and which had now escheated to the Crown.⁴ The first manor, also, entered under Hugh de Grentmesnil is described as held by him 'de rege in custodia,' just as the manors of Earl Aubrey were held by Geoffrey 'de Wirce.' It is well worthy of notice that Domesday thus pointedly distinguishes escheated fiefs from those forfeited manors of the local earl which had passed into the permanent possession of the Crown. For it may have been even then, as it was later, recognized that escheats should not be retained, but be granted out anew.

Of ecclesiastical tenants-in-chief two bishops held lands within the borders of the county in their official capacity. These were a Norman prelate, Peter, Bishop of Chester, who had removed his episcopal seat thither from Lichfield, and who held, in right of the latter church, Bishop's Tachbrook in this county, and Wulfstan, the native Bishop of Worcester, the great possessions of whose see extended from Worcester-shire into Warwickshire.⁵ His rival also, the abbot of Evesham, held

¹ 'Hoc terra cum burgo de Warwic et terciō denario placitorum siræ reddebat T.R.E. xvii. libras.'

² 'Huic etiam manerio Piretone adjacet tercius denarius de tota scira Dorsete. Redd' cum omnibus appendiciis lxxiii libras' (fo. 75).

³ 'De terra Edwini comitis in Oxenef' et in Warwicscire habet rex c lib. et c solid' (fo. 154).

⁴ See p. 276 below.

⁵ Bishop Wulfstan's manor of Alveston is dealt with on p. 287 below.

A HISTORY OF WARWICKSHIRE

five Warwickshire estates but failed to establish, as against Worcester, an old claim to Stratford-on-Avon.¹

This and other disputes in which the monks of Worcester were involved help at times to illustrate the entries in the Domesday Survey. In Warwickshire, they complained, they had lost in the days of Cnut—by forfeiture for delay, real or alleged, in the payment of the ‘geld’—estates at Luddington, Drayton and Lapworth, three hides at Loxley and a moiety of Milcote.² They had also been deprived of Bickmarsh by Eadwine, a brother of Earl Leofric,³ while Abbot Æthelwig of Evesham had stripped them of the other moiety of Milcote.⁴ It is only in the case of Milcote that we can test their statements by Domesday. The whole of it was held at the time of the Survey by Stephen the steersman,⁵ and Domesday asserts that its former holders were Bishop Wulfstan and an Ælfstan. The story of the monks of Worcester is that Abbot Æthelwig, having obtained Ælfstan’s moiety of Milcote,⁶ set himself to acquire from Bishop Wulfstan the other moiety.⁷ Succeeding in this by guile, he obtained the whole, but Bishop Odo of Bayeux, they added, seized on his lands at his death. Domesday, however, shows Milcote held, as I have said, by Stephen and unconnected with Odo. The explanation is, I believe, that Stephen who held *in capite* Little Dorsington and Milcote⁸ was identical with the Stephen who held as a tenant of the Bishop of Bayeux at Brome (in Bidford) and at Arrow in the same neighbourhood.⁹ He may thus have acquired Milcote by gift of the bishop. The Evesham monks classed Brome (now Broom) and Arrow with Dorsington and the Milcotes as manors which Abbot Æthelwig had acquired for his abbey, but which Bishop Odo had afterwards seized.¹⁰

On comparing Domesday with the Evesham chronicle and the MS. records of that abbey it is not clear how matters stood as between the monks and Bishop Odo, but on one point the concordance is perfect; the only manor in the Survey to which a previous owner is assigned is Wixford, and this is also the only one for which the chronicle give us the details of Æthelwig’s action. We read in the latter that it five hides had been given to Evesham, about a century before Domesday by Ufa, sheriff of Warwickshire, but that his son had been rashly allowed to retain it for his life, with the result that it was not secured till Æthel-

¹ There is no allusion in the Warwickshire survey to his recent contest with the bishop, but the monk Heming, in his cartulary, gives us the Worcester version, while that of Evesham is preserved in the abbey’s chronicle. At one stage of the controversy there was a ‘plea,’ described in Heming’s cartulary (ed. Hearne, p. 82), at which two barons of this county, Osbern Fitz Richard and Turchil ‘de Warewicscyre’ were present to depose to the state of things before the Conquest.

² Heming’s cartulary (ed. Hearne), p. 278.

³ Ibid.

⁴ Ibid. pp. 272, 279.

⁵ Compare p. 280 below.

⁶ ‘Cum dimidiam partem, quæ ante a monasterio ablata fuerat, ipsius ville, quæ Mylekota dicitur, ab ipso, qui eam possederat, suis ingeniis, ut solebat, adquisisset.’

⁷ These moieties are now known as Upper and Nether Milcote; in the thirteenth century they were known as Milcote-on-Avon and Milcote-on-Stour (*Calendar of Charter Rolls*, i. 284, 292).

⁸ They are both on the Gloucestershire border and indeed in Gloucestershire parishes.

⁹ This suggestion is confirmed by the fact that Brome, at least, descended with Milcote and Dorsington for some time after Domesday.

¹⁰ *Chronicon de Evesham*, pp. 95, 97.

THE DOMESDAY SURVEY

wig, in King Edward's time, 'a Wigodo regis barone digno pretio eam comparavit.' It is this Wigot whom Domesday names as the holder T.R.E.

An entry in the Survey relating to Lapworth may lead us to an interesting discovery. All that we learn from Domesday is that at eight places in Warwickshire, of which Lapworth was one, Hugh de Grentmesnil had been preceded by one or more men bearing the name of Baldwin. But on turning to Heming's *Cartulary* (p. 267) we read that the half-hide of which Domesday speaks had belonged to the church of Worcester, but had been given, at a nominal quit-rent, by Bishop Brihtheah to a certain 'Hearlewinus,' who had been his companion when he took Cnut's daughter, Gunnild, to 'Saxony' for her marriage (1036). Now Baldwin and Herlwin are strange names, names that in pre-Conquestual England arrest attention. Can we connect them? It is not, surely, a mere coincidence when in Gloucestershire Domesday shows us a 'Baldwin son of Herlwin' as the former holder of a substantial manor in Bradley Hundred (fo. 163), or when in Bucks it mentions 'Turstin a man of Baldwin son of Herlwin' (fo. 144b.¹) Clearly 'Baldwin son of Herlwin' was a man of note before the Conquest, and when we find that Hugh de Grentmesnil had succeeded to lands of 'Baldwin' in a whole group of counties, Gloucestershire, Oxfordshire, Warwickshire, Northamptonshire, Leicestershire, we can hardly any longer doubt that this was Baldwin the son of Herlwin, and that he had succeeded his father at Lapworth and in other places.

But the most richly endowed religious house in the county was the local minster of Coventry. Of other English abbeys the possessions were insignificant, Abingdon, Burton, Malmesbury, and Winchcombe holding an estate apiece in chief. Under Turchil of Warwick a small estate was held by St. Mary's church, Warwick. The endowment of foreign monasteries had as yet only begun, but the abbey of St. Evroul already held of Hugh de Grentmesnil a manor at Pillerton (Priors), as did that of Préaux at Arlescote under the Count of Meulan, while Geoffrey de la Guerche bestowed on the monks of St. Nicholas of Angers lands at (Monks) Kirby.

To this last endowment there attaches exceptional interest, because we have the text of the actual charter by which Geoffrey bestowed it. Granted at (Monks) Kirby itself 1 July 1077, it specially mentions Kirby church, which, as it was decayed, he had, we learn, rebuilt in honour of St. Mary and St. Denis, and dedicated that same day in presence of Peter the bishop, himself, as we have seen, a Warwickshire tenant-in-chief.² As the charter is granted with the consent of Ælfgifu (*Alveva*) his wife, it is clear that we have in Geoffrey a follower of William who really did marry what is called 'a Saxon heiress,' and that

¹ This is one of the entries omitted from Ellis' Indexes.

² For knowledge of this charter in the register of Burton Lazars' Hospital, which is printed in Nichols' *Leicestershire*, vol. ii. appendix, p. 125, I am entirely indebted to Mr. A. S. Ellis' paper on Geoffrey in his 'Landholders of Yorkshire, 1086' (*Yorkshire Arch. Journ.*) To that paper also we owe the solution of Geoffrey's origin from the genealogical work of Père du Paz.

A HISTORY OF WARWICKSHIRE

she must have brought him his Warwickshire lands, for they had all belonged to the same man. Geoffrey himself hailed from the border of Anjou and Brittany, being lord of Pouencé on its Angevin and La Guerche on its Breton side. He appears to have died childless.

English abbeys in other counties which had obtained lands in Warwickshire had done so in various ways. Burton owed its land at Austrey to Earl Leofric, and Malmesbury its Newbold estate to the gift of Wulfwine its owner on his becoming a monk of that house. But the case of Abingdon is the most interesting, for it illustrates the variety of versions that are given of these incidents. The abbey's chronicle narrates that, in the Conqueror's reign, a local magnate, Turchil of Arden, bestowed on it lands at Hill and Chesterton;¹ this gift the Conqueror confirmed by his charter.² But it elsewhere states that the abbot obtained these lands from 'the King.'³ Neither of these versions accords with the evidence of Domesday, which shows us the abbey holding Hill *in capite*, the abbot having 'bought' it of Turchil's fee, while under Turchil's own fief we find two estates, of a hide each, at Chesterton entered as held of him by the abbey, one of them being held in pledge (*vadimonium*).

Intermediate in position between church and lay landowners were the Bishops of Bayeux and Coutances, who held land in their personal, not their official capacity. In Warwickshire, however, their holdings were not of much importance.

Early among the lay magnates we meet with two who had already ceased to hold the lands entered as theirs in Domesday. One was 'earl Aubrey' and the other 'countess Godiva.' The former has been shown⁴ to have been probably identical with Aubrey de Couci ('Coci'), and had certainly derived his title from having been appointed earl of the Northumbrians some years before. His lands, at the time of the Survey, in Warwickshire as elsewhere, had been resumed by the Crown, and in this county they are found in the charge of Geoffrey 'de Wirce,' a great baron in Leicestershire, Warwickshire and other counties. As for 'countess Godiva,' Earl Leofric's widow, her estates had doubtless passed to King William at her death. They lay in the north of the county and are entered as farmed by 'Nicholas,' who appears to have been also farming the manors of her son Earl Ælfgar in Staffordshire. Most, if not all, of her land, however, must have been subsequently granted to the Earls of Chester, in whose hands it is found.⁵

But all the local fiefs are dwarfed by those of the Count of Meulan and of Turchil 'de Warwic,' which follow one another in Domesday and occupy between them no less than nine columns of the

¹ 'Turkillus quidam de Anglis, valde inter suos nobilis, in partibus Ardene mansitans, abbatis familiaritate et fratrum dum nonnunquam uteretur, de patrimonio suo terras duobus in locis ecclesie Abbendonie concessit' (ii. 8).

² Ibid.

³ 'contulit a rege Cestertunam, Hull et Newenham' (ii. 284). Another variant of this version is found in the *Testa de Nevill* (p. 87): 'W. Rex Bastardus feoffavit abbatem de Abindon de iiij virgatis terræ in Hulle, que valet per annum iiij marcas per servicium faciendi wardam castr' de Wyndeshore.'

⁴ By Mr. A. S. Ellis in his paper on 'The Landholders of Yorkshire in Domesday.'

⁵ Dugdale, misled by the pseudo-Ingulf, made them inherit it from her by descent.

THE DOMESDAY SURVEY

record. Within a very few years these two fiefs were combined in the hands of the first Earl of Warwick, and the great dominion thus created, with Warwick Castle as its head, completely overshadows the feudal history of the county. Something therefore should here be said of the origin of these fiefs. At the time of the Conquest Roger de Beaumont, a trusted friend and minister of the Conqueror, had two sons, Robert and Henry, of whom Robert inherited, through his mother, the *Comté* of Meulan, while Henry, very shortly indeed after the Domesday Survey, was created Earl of Warwick. As early as 1068, when Warwick Castle was 'founded,' Henry was entrusted with its keeping,¹ but he is not found in Domesday as a holder of land. It was his elder brother, the Count of Meulan, one of the heroes of the battle of Hastings, who held so large a fief in the county in 1086. He, however, it would seem, had not been its first holder. The cartulary of Préaux distinctly states that the five hides at Arlescote were given to that house by Roger de Beaumont himself, not by his sons²; and we must therefore conclude that the Count of Meulan (from whom the abbey held this endowment in 1086) had inherited the fief (or, in any case, part of it) from his father. Its subsequent devolution appears to be somewhat obscure, for, instead of descending to Robert's heirs, it clearly passed to his brother Henry, who became Earl of Warwick. This, indeed, is implied by the same cartulary of Préaux, which states that the tithes of some Warwickshire manors were added by Roger's sons, Robert, Count of Meulan, and Henry, Earl of Warwick.³ It is probable that the fief was transferred to Henry when he was made an earl, and that his elder brother was compensated by the large grants of other lands which we know he subsequently obtained.

It was also to provide Henry with lands suitable to his dignity that he received the fief which had been held by Turchil 'of Warwick.' This we learn incidentally from the chronicle of Abingdon Abbey, which states that in consequence of this transference Henry claimed Hill and Chesterton, which Turchil had given to the abbey, and had to be induced by a sum of money to confirm the gift.⁴ On what ground Turchil (or his son and heir, Siward) was deprived of his extensive fief we cannot tell; but the fact that, in Mr. Freeman's words, 'he stands out more conspicuously in Domesday than any other Englishman' would be of itself enough to excite the cupidity of Normans. That his house however was not doomed to such ruin and destruction as was the fate of others is shown by the fact that his descendants held some ten knights' fees under the Earls of Warwick.⁵ Their long continuance in the county, under Turchil's name of Arden, is of great interest

¹ 'Rex itaque castrum apud Guarevicum condidit et Henrico Rogerii de Bellomonte filio ad servandum tradidit' (Ord. Vit.)

² *Calendar of Documents preserved in France*, p. 108.

³ Ibid.

⁴ 'In comitatus supplementum Henrici Warewicensis comitis, regis Willelmi junioris, in sui imperii principio, dono, patrimonium terrarum Turkilli de Ardene adjectum est' (ii. 21).

⁵ Eighty years after Domesday Henry de 'Ardene' was holding 5 fees, and Hugh de 'Ardene' 5½ of William, Earl of Warwick (*Red Book of the Exchequer*, p. 325)

A HISTORY OF WARWICKSHIRE

to genealogists, and affords an exceptional instance of the early adoption of a surname. That their forefather was also known as Turchil 'de Warwic' was due, in my opinion, to his association with the shrievalty, as in the cases of those houses which took their surnames from Salisbury and from Gloucester. For Turchil's father Ælfwine had undoubtedly been sheriff,¹ though Turchil was not, when we meet with him, which is doubtless why the surname of Warwick was not adopted by his heirs. One has to insist that there is nothing either in the chronicles or in Domesday to connect him with Warwick Castle or with the earldom of the shire. If he succeeded his father as its sheriff he was soon supplanted by Robert d'Oily, who was his under-tenant in certain manors, two of which he held of him 'in pledge.'

The predecessors of Turchil in his many estates had been several different persons, among whom a Hereward appears as the holder of a small estate at Ladbroke. Mr. Freeman, we gather, was unable to make up his mind whether this was the famous Hereward or not²; for my part I can find no reason to suppose that it was.³ In the case of only four of Turchil's manors is it definitely stated that his father had been his predecessor; a goodly number were held of him by his own fellow-countrymen who had held them 'freely' themselves before the Conquest. One of his under-tenants, Gudmund, is of interest as having been his own brother, and an incidental allusion to 'Chetelbert' under his manor of Radford is explained by Mr. Eyton's proof that he also was a brother of Turchil.⁴

Dugdale, rightly I think, suspected that Turchil's was not the only fief subordinated, after Domesday, to that of the Earl of Warwick.⁵ The fief, for instance, of William Fitz Corbucion must have been represented by the ten knights' fees that his heir, Peter de Studley, held of the Earl of Warwick in 1166.⁶ I am not sure, however, that Dugdale was also right in thinking that Salford Priors, which appears in Domesday as held in almoyn by Leveve (or Luith), the nun was similarly given to the

¹ See Ellis' *Introduction to Domesday*, ii. 496-7, and Freeman's *Norman Conquest* (1871), iv. 780.

² 'Thurkill kept his lands, which were largely increased by royal grants out of the confiscated estates of less lucky Englishmen . . . among whom we discern . . . the greater name of Hereward' (*Norm. Conq.* iv. 189). 'Legend also has forgotten the fact which the document [Domesday] has preserved, namely, that the hero of the fenland did not belong wholly to Lincolnshire, but that he was also a landholder in the distant shire of Warwick' (*ibid.* pp. 455-6). Elsewhere, however, he admitted of the Warwickshire entries that 'the Hereward of these entries may have been some other person' (*ibid.* p. 805), though he urged that 'the mention of Warwick' (which he had not mentioned) in the legend draws 'incidental confirmation from Domesday' (*ibid.* p. 809).

³ Turchil's predecessor, however, may have been identical with the Hereward who held under the Count of Meulan in 1086 three manors in the north of the county which he himself had held freely before the Conquest.

⁴ The proof is an old translation in the College of Arms of a charter of 1072, which was printed with annotations by Mr. Eyton in *Staffordshire Collections*, ii. 178, and which he rightly styled 'a priceless document which in turn fortifies history and helps chronology.' It is a grant by Robert de Stafford, and among the witnesses are 'Agelwinus Viscount,' 'Turkil, the sonne of Agelwinus,' 'Ketelbearne his brother.' From this it would appear that the right name of Turchil's father was Æthelwine ('Agelwinus'), and that he was still sheriff (*vicecomes*) of Warwickshire in 1072.

⁵ I have touched upon this practice in my *Geoffrey de Mandeville* (pp. 103-4). The charters obtained by Geoffrey in Stephen's reign contain several instances of such subordination.

⁶ *Red Book of the Exchequer*, p. 325.

THE DOMESDAY SURVEY

earl. There are interesting allusions to her tenure among the Kenilworth Priory charters, from which we learn that she consented to its being granted to the priory after she had proved her right to it in the court of Henry I.¹ But a charter of that king speaks of his having himself established, as against the Earl of Warwick, that the manor was held of him in 'almoin,' Domesday's own expression.²

Of the other Warwickshire tenants-in-chief, Earl Roger (of Shrewsbury) had for his under-tenant in three five-hide manors Rainald (de Bailleul) whose holding, here as elsewhere, is afterwards found in the hands of the Fitz-Alans; and Earl Hugh (of Chester), who had for his predecessor King Edward's Norman chamberlain Hugh, bestowed some land at Pillerton on the monks from St. Evroul whom Hugh de Grentmesnil had endowed there. Of this last Hugh, the seat of whose power was in Leicestershire, the fief passed with his other possessions to the Earls of Leicester, while that of Henry de Ferrers descended to his heirs the Earls of Derby. The next two tenants-in-chief, Roger de Ivry and Robert d'Oily,³ are of interest for their alleged sworn brotherhood; they certainly appear at times in conjunction, as, for instance, at Stow, Bucks, which manor they held jointly of the Bishop of Lincoln. The question implied by Domesday as to Roger's tenure of Cubbington in this county should be compared with the entry on his Gloucestershire manor of Hasledon, which had similarly, we read (fo. 268), been held of the Bishop of Bayeux. Robert d'Ouilly was constable of Oxford and a great man in that county, but, although in Warwickshire he held in chief one manor only, he was, I think, its sheriff and the 'Robert' who is alluded to as farming the king's manor of 'Cotes,' as a sheriff would. For the king's charter confirming the gift of Turchil of Arden to Abingdon Abbey is addressed to him in a way that implies he was sheriff of the county.⁴

Robert de Stafford had in Staffordshire itself a fief so large that it dwarfed even his great estate in Warwickshire. Three tenants with Breton names, Brien,⁵ Hervey, and Urfer, held of him in both counties, and to these we may add in Warwickshire Ludichel and Iwein. Robert Despenser, brother of Urse d'Abetot, is chiefly remarkable, in this county, for having at some period obtained possession of Tamworth.⁶ Robert de Veci's possession of land in Warwickshire, as in Leicestershire and Northamptonshire, is accounted for by his having been given the fief of a Lincolnshire thegn, Æthelric the son of Meriet, who appears to

¹ 'concessione et assensu Luithe monialis que idem manerium per judicium curie Regis Henrici recuperavit' (Harl. MS. 3650, fo. 18d).

² 'quod fuit Livithe monialis, quod ego deracionavi adversum Rogeri comitem de Warewic fuisse de elemosina mea quodque ipse Gaufridus (de Clintona) de eodem comite tenuit' (ibid. fo. 143).

³ They derived their names from Ivry-la-Bataille (Eure) and Ouilly (Calvados).

⁴ *Abingdon Chronicle*, ii. 8.

⁵ He was the tenant of Ditchford. General Wrottesley says he was the ancestor of the family of de Standon, the most important of the tenants of the Barony of Stafford, holding seven knight's fees of Robert de Stafford in Staffordshire, Lincolnshire and Warwickshire (*History of the Family of Wrottesley*, p. 7). In 1166 Ditchford appears to have been held of his heir by Roger de 'Dicford' (*Red Book of the Exchequer*, p. 265) as two-thirds of a knight's fee.

⁶ *Geoffrey de Mandeville*, p. 314.

A HISTORY OF WARWICKSHIRE

have been his predecessor in all his manors. His, therefore, is a good example of a Norman stepping, as it were, into an Englishman's shoes. It is also doubtless the explanation of Ralf de Mortemer holding the solitary Warwickshire manor of Stretton Baskerville that his predecessor there, 'Edric,' was the famous 'Eadric the Wild,'¹ whose lands in Herefordshire and Shropshire had passed into his hands.

William Fitz Ansculf (de Picquigny) was a Worcestershire baron, whose seat was at Dudley Castle; but William Fitz Corbucion, whose seat was at Studley, held hardly any manors outside Warwickshire. With Geoffrey de Mandeville, an Essex baron, and Geoffrey de la Guerche, who was great in Leicestershire and Lincolnshire, we return to the principle of Normans being placed in the shoes of single Englishmen. For the latter obtained the whole of the lands of a local thegn, Leofwine possibly of Newnham,² while the former succeeded here as elsewhere to the scattered estates of his predecessor Ansgar the 'staller.' Stephen the steersman, though his name suggests that he was out of place in the heart of England,³ appears also in the great Survey as the holder of two houses in Southampton, already an important port. Osbern Fitz Richard had inherited from his father, one of Edward the Confessor's favourites, Richard's castle in Herefordshire, and his Warwickshire lands descended with the fief of which it was the head. He is followed by another Herefordshire lord, Harold the son of Earl Ralf, from whom his castle of Ewyas Harold derives its name.

The three barons who follow were connected with other counties. Hascoit Musard was a Breton who had lands in Gloucestershire and Derbyshire, and whose castle of 'La Musardere' in the former county gave its name to Miserden. Nicholas the crossbowman (*balistarius*), though he only held two manors in this county, had secured a goodly number far away in Devonshire.⁴ Distant also was the head of Nigel de Albini's barony, which was at Cainhoe in Bedfordshire, although he had a small estate in Leicestershire as in Warwickshire; in the latter county he was probably the 'Nigel' who held a portion of Austrey as tenant-in-chief, an arrangement which, Domesday shows us, was then by no means uncommon.⁵

¹ See Freeman's *Norman Conquest* (1871), iv. 738.

² The identity of this Leofwine is doubtful, the name being a common one. The fact that (the Warwickshire portion of) Mollington had been held T.R.E. by the mother of Leofwine 'de Niweham,' and that 'Niweham' [Newnham] is in this county might seem decisive. But, on the other hand, Leofwine 'de Neweham,' who took his name from Nuneham Courtney, Oxon, was a Bucks tenant-in-chief in 1086.

³ But see p. 290 below.

⁴ The case of Nicholas illustrates the inter-relation of counties even when far apart. We learn from the cartulary of St. Peter's, Gloucester (ed. Rolls Series i. 74), that in 1095 Odo Fitz Gamelin, a Devonshire baron in Domesday, gave Plumtree in that county to that abbey. Between that date and 1100 Nicholas 'de la Pole' exchanged it with them for his Warwickshire manor of Aylestone ('Alno-destone'). As this manor was held in 1086 by Nicholas 'balistarius,' we can scarcely hesitate to pronounce the two men identical.

⁵ For instance, even the Count of Meulan, who held two-fifths of Myton as a tenant-in-chief, condescended to hold another two-fifths as 'of Turchil's fee,' that is, as under-tenant to that Englishman.

THE DOMESDAY SURVEY

'Cristina,' who appears as the holder of two manors in Warwickshire and one in Oxfordshire, was sister to Eadgar Ætheling, king for a moment of the English, and to Margaret Queen of Scots. Of her valuable and extensive estate at Long Itchington it is expressly recorded that 'the king' (presumably William) gave it her,¹ though why he should have so handsomely provided for this daughter of the native royal house we do not know. Her name is followed by those of two of her humbler country-women who are entered as holding their land of the Conqueror's 'alms.' A few Englishmen also are named as holding of the king, but these will best be considered in connection with the fate of English thegns in Warwickshire.

Richard the forester, whose name is entered as if he were a serjeant rather than a baron,² was the forester of Cannock Chase and held a fief in Staffordshire and Warwickshire larger than those of some of the barons; in Staffordshire, indeed, his lands are entered amongst those of the other tenants-in-chief. It should be observed that in the Warwickshire Domesday he is thrice styled Richard the huntsman (*venator*); for the offices of forester and huntsman were closely connected. In the neighbouring county of Northamptonshire the baronial family of Engaine combined a hunting tenure with a forestership in fee, and the Waleran 'venator' of Domesday in Hants and Wiltshire was also a forester in fee. We learn a good deal from the *Testa de Nevill*, under Warwickshire, about Richard and his descendants³ down to Hugh de Loges who held his office under Henry III., and are also given some detailed information on his manors. It is expressly stated that he founded the church of Chesterton and that his son and successor gave it to Kenilworth Priory.

At Kenilworth itself Richard had a holding entered separately from the rest of his fief on account of its being a member of the king's manor of Stoneleigh.⁴ Its entry is immediately preceded by that of another 'member' held by 'Albert the clerk.' This is that Albert of Lotharingia who enjoyed the favour of William as of Edward, and whom Domesday shows us variously styled, with interests in Herefordshire, Rutland, Beds, Middlesex, Surrey, Kent, and at Windsor itself.⁵

Having now dealt with the bulk of those who held their lands in Warwickshire of the king himself, we will glance at two of their under-tenants who deserve special notice. Saswalo, who held of Henry de Ferrers the great manor of Lower Easington, was undoubtedly the

¹ We read in 'The laws of Edward the Confessor' (assigned to the reign of Henry I.) that Cristina's land was given her by Edward and was afterwards held by Ralf de Limesi ('Cui Cristine rex Eadwardus dedit terram quam habuit postea Radulfus de Limesi' (*Die Gesetze der Angelsachsen*. By F. Liebermann [1903], Erster band, p. 665). The statement as to Edward seems to be mistaken, for two of her manors had belonged to Earls Ælfgar and Eadwine, but her Warwickshire lands, as Dugdale observed, certainly came into Limesi's hands.

² In the schedule of names he heads a group as 'Richard and other thegns and serjeants of the King,' and he occupies in the text a corresponding position.

³ 'Willelmus Bastardus quando perquisivit Angliam dedit cuidam servienti suo Ricardo Cheven (*sic*) tres partes de Cestreton cum aliis feodis pertinentibus ad Castreton (*sic*) ad custodiendam forestam suam de Kanoc per x marcas solvendas domino Regi pro ballia forestæ,' etc. (pp. 86, 87, 51, 62, 93).

⁴ See p. 294 below.

⁵ See *The Commune of London and other Studies*, pp. 36-8.

A HISTORY OF WARWICKSHIRE

ancestor in the male line of that family of Shirley by whom it has been held ever since.¹ It is doubtful whether in all England there exists another case of an under-tenant's manor so demonstrably descending in a male line unbroken. That this descent can be established is partly due to the fact that the holder of Easington was an under-tenant on a very considerable scale. He held of Ferrers in Derbyshire, in Northamptonshire, and in Lincolnshire as well as here, and his holdings were represented in 1166 by nine knight's fees.² As there has been some misconception with regard to the origin of 'Saswalo,' one may here explain that there were certainly two (and possibly four) bearers of the name in Domesday. The one who held in Oxfordshire and Berkshire under Geoffrey de Mandeville was represented by Sewale³ de Oseville in 1166 and probably bore that surname. Our Warwickshire 'Saswalo' was then represented by 'Sewaldus.'⁴ It is clear, therefore, that Saswalo was only a Latinization of a name represented now by 'Sewell.' That its bearers were foreigners, not Englishmen, is shown by their having as predecessors several different men and by the absence of the name in England before the Conquest.

The other Warwickshire under-tenant who appears to have been the ancestor of a still existing family is 'Rannulf,' who held at Kinwarton under the abbot of Evesham. The researches of General Wrottesley have left little doubt that 'Rannulf' was the brother of Walter then abbot, and that he was ancestor in the male line of the house of Wrottesley.⁵ This he has established by Evesham evidences, and his researches have incidentally illustrated other points in the survey of the shire, as is seen in this introduction.

At length we may approach the question of the native landowners and their fate. Great obscurity still surrounds the process by which the English holders were dispossessed by the strangers. The magnates, no doubt, were dispossessed either at the opening of William's reign or, on various pretexts, in the course of it. As a typical example we may take the case of an English noble who has not yet been properly identified in Domesday. Three at least of the Warwickshire manors that had passed to Henry de Ferrers had been held by Siward Barn, who may also have held the rest, for all we know to the contrary. In Gloucestershire Henry's only estate, the valuable manor of Lechlade,⁶ had been held by the same man. Far away in Lincolnshire, in its north-west corner, Henry's only manor in the county, where his tenant was the Warwickshire 'Saswalo,' had been held by the same man, oddly disguised as 'Seubar' (fo. 353), and he was claiming other land as having been his at Amcotts.⁷ Now

¹ This was demonstrated by Mr. Evelyn Shirley in his own history of his family.

² *Red Book of the Exchequer*, p. 336.

³ Or 'Sewalus' (*Red Book of the Exchequer*, p. 345). Cf. *Geoffrey de Mandeville*, p. 231.

⁴ Or 'Sawaldus' (*Red Book of the Exchequer*, p. 336).

⁵ See *A History of the Family of Wrottesley of Wrottesley*. By Major-General Wrottesley (reprinted from the *Genealogist*, 1903).

⁶ 'Siward bar tenuit' (169).

⁷ *Henricus de ferrariis clamat super ipsum Goisfridum iij bov' terræ, hoc est terram Siwardbar in Amecotes* (376b).

THE DOMESDAY SURVEY

in Lincolnshire (fo. 337b) and in Nottinghamshire (fo. 28ob) Domesday mentions him among those local magnates who enjoyed sac and soc, and we can hardly doubt, therefore, that he was also the 'Siward' who was the predecessor of Henry de Ferrers in his only two Nottinghamshire manors, Leake and Sutton Bonington in the south-west of that county. He was probably also, therefore, the 'Siward' who had preceded Henry at some two places in Derbyshire, and the 'Seward' or 'Siward' whom Henry had succeeded in three valuable Berkshire manors.

To finish with Siward while discussing him, we observe that his lands about the mouth of the Trent did not pass to Henry de Ferrers, although Henry, we have seen, claimed Amcotts. Another Warwickshire tenant-in-chief, Geoffrey de la Guerche, who was great in the Isle of Axholme, secured Haxey on the Lincolnshire and Adlingfleet on the Yorkshire side of the county border at this point. 'Seiard bar' had some outlying lands, in addition to all these, just to the west of Cromer; but neither Henry nor Geoffrey obtained a share of them. Now Siward Barn, by that name, appears once on the page of history; he was one of those who came by ship, in 1071, to join the rebels in the Isle of Ely,¹ but were forced to surrender to the Conqueror. Mr. Freeman, without giving his reasons, calls him a 'Northumbrian thegn' and makes him identical with the Siward who made his submission to William after the latter's coronation. Among the magnates who submitted on that occasion was a Turchil, who may not impossibly have been Turchil 'of Warwick' himself.²

But the fate of the smaller holders under William is our difficulty. Mr. Freeman seems to have held that in Warwickshire they fared ill.

It is painful, on looking through the Warwickshire Survey, to compare the vast estates of Thurkill with the two or three other thegns of the shire who retained some small fragments of their property. It is plain that here, as elsewhere, the men of the shire at large were patriotic and paid the penalty in the confiscation of their lands.³

Mr. Freeman, of course, was speaking only of Englishmen who still held their land direct of the Crown; the names of these, five in number, follow that of Richard the forester in the place where Domesday enters the English thegns, but, with the exception of a certain Leofwine, who was possibly brother to Ælfwine the sheriff, they had but small holdings,

When, however, we turn to the English under-tenants, we are struck at once not only by their number, but by the frequent cases of men who held under Norman barons the same estate that they had held themselves in the days before the Conquest. This is a feature of the Warwickshire survey which makes it contrast, it will be found, with those of the surrounding counties. On some fiefs, such as those for in-

¹ See the Anglo-Saxon Chronicle and also Florence of Worcester: '*Morkarus vero, et Ægelwinus Dunholmensis episcopus et Siwardus cognomento Barn et Herewardus vir strenuissimus, cum multis aliis, Heli insulam navigio petierunt.*' Simeon of Durham makes the bishop and Siward come from Scotland.

² Although his father was then living, Turchil is entered under Warwickshire as having held some, lands himself under King Edward, so that he must have been of sufficient age to attend.

³ *Norman Conquest*, iv. 189.

A HISTORY OF WARWICKSHIRE

stance of Osbern Fitz Richard and Hugh de Grentmesnil, the under-tenants are, as usual, Norman ; but on others the prevalence of English names is worthy of careful study. As we might expect, the fief of Turchil is the most remarkable in this respect. 'Bruning' at Wigginshall, four brothers at Wolfhamcote, four franklins at Birdingbury, Wulfric at Walcote, Wulfcytel at Napton, 'Leuiet' and Godwine at Willoughby, and 'Hadulf' at Binley, all continued to hold under him their own old estates. Brihtric was still living, as before, on his land at Baddesley Ensor.

Of Turchil's other English tenants, some of whom held two and even three manors, we cannot speak so positively, for they may or may not have been related to the Englishmen entered as their predecessors ; in any case they seem to have been eighteen in number. One might have suggested that, on Turchil's fief, the prevalence of English tenants was due, either to smaller men 'commending' themselves to their fellow-countryman in order, under his protection, to escape confiscation, or to his selecting English tenants for the lands he had obtained. But the occurrence of the same phenomenon on the fiefs of Norman lords is fatal to this explanation. On that of the Count of Meulan, which immediately precedes his own, we find a Hereward holding under him three of his old manors, Waltheof holding two, and Merewine holding one, while five of his under-tenants also have English names, one of them holding in three places. One of them, Salo, installed at Bulkington, was clearly, as Mr. Carter points out, the Salo who had lost his land at Bramcote adjoining. Robert de Stafford, again, had seven under-tenants bearing English names, of whom two at least held their old lands under him, while William Fitz Corbucion, William Fitz Ansculf, and Geoffrey 'de Wirce' are responsible for ten, each of them having at least one seated at his old home. The case of Geoffrey's fief is of special interest, because after stating that his manor of Hopsford had formerly been held freely by his English tenant Wulfric, the record goes on to tell us that all his lands had belonged to Leofwine (of Newnham?). Wulfric, therefore, had but exchanged an English lord for a foreign one ; he must formerly have held under Leofwine, as he did now under Geoffrey. Whatever may have been the cause of the prevalence of English tenants, it leads us to believe that in feudal times a goodly number of the Warwickshire gentry were probably of native origin.

It is singular, and in this connection appropriate, that while not a single Warwickshire parish (except, perhaps, Brownsover) commemorates in its name a Domesday baron or under-tenant of alien birth, Wootton Wawen derives its appellation from Waga, a Warwickshire thegn who held that manor and six others in days before the Conquest.¹

The variety of classes and even of nationalities named in the Warwickshire survey is exceptionally large. On Robert de Stafford's fief we have seen there were Breton tenants, and nine Flemings (*flandrenses*)

¹ He was possibly the 'Wagen minister' who attests a Worcestershire charter of Edward the Confessor in Heming's *Worcester Cartulary* (ed. Hearne), p. 398.

THE DOMESDAY SURVEY

are mentioned on a manor of Osbern Fitz Richard. 'Francigenæ,' who occasionally occur, as at Haselor, are men of French birth, but I claim the 'francones homines,' who had weathered the Conquest at Birdingbury, as English franklins. The actual term 'francolanus' (franklin) does not, it would seem, occur in Domesday,¹ nor indeed are 'francones homines' met with elsewhere in the record except in a reference to the 'placita franconum hominum' in the adjoining county of Worcestershire (fo. 175); but there can be little doubt that the 'franci homines' of Domesday has the same meaning. Another term employed in the Warwickshire survey is 'taini,' applied, as at Pillerton and Lower Easington, to members of the agricultural community. Knights (*milites*) are similarly found grouped with the peasant classes in a way that makes their real status very doubtful. The priest again is regularly found (except in the case of some special tenancies which will be dealt with separately) occupying the same position; but the fact that it is also occupied by men who were clearly above peasants modifies any conclusion that might be drawn from the fact, and leads us to doubt whether the plough-teams assigned to these groups of classes can have been held by them as members of a village community. Some types of these groups will illustrate their mixed character—

LOWER EATINGTON	PILLERTON	ASTON CANTLOW
32 villeins	13 villeins	9 Flemings
1 priest	23 bordars	16 villeins
25 bordars	1 'francigena'	1 priest
1 knight	3 'taini'	10 bordars
2 'taini'		
—	—	—
61	40	36
COMPTON	STRETTON	BARFORD
45 villeins	8 villeins	2 knights
1 priest	3 bordars	1 priest
13 bordars	1 priest	4 villeins
2 knights	1 knight	11 bordars
—	—	—
61	13	18

We may compare this grouping with the frequent statement in Domesday that a manor had been held by several sokemen, who prove, when details are elsewhere available, to have varied not only in their tenure, but in the extent of their holdings.

When we turn to the peasantry proper, we find not only the normal villeins, bordars and serfs, but six of 'the small but interesting class of *huri*, *burs*, or *coliberti*'² (of whom the status is undetermined) at Nuneaton. We have also a '*bovarius*' at Chesterton, and bondwomen (*ancillæ*) at several places. The *bovarius* and *ancilla* are of frequent occurrence in the adjoining county of Worcestershire, and I have shown that the former was the servant who had charge of the oxen in the lord's plough-team, two of them

¹ Monastic cartularies show it in use in the twelfth century.

² Maitland's *Domesday Book and Beyond*, p. 36.

A HISTORY OF WARWICKSHIRE

going to each team.¹ They were consequently closely connected with the demesne portion of the manor, as were also the *ancillæ*.¹ In Warwickshire the place of the *bovarius* is taken by the serf, who is normally spoken of as on the demesne. The proportion, however, of the serfs to the lord's plough-teams is by no means regular, although the opening entry for the county shows us six ploughs and twelve serfs 'in dominio.' An analysis of all the entries, which I have made for this purpose, reveals the following cases in which the proportion of ploughs to serfs is correct: 6 to 12, one; 5 to 10, one; 4 to 8, one; 3 to 6, three; 2 to 4, twelve; $1\frac{1}{2}$ to 3, three; 1 to 2, thirty-three. This gives us a total of fifty-four cases as against 107 in which the number of serfs is either above or below that which is required. Students will recognize that, even so, the number of cases in which the required proportion occurs is significantly large; and there are several in which it is closely approached.²

The bondwomen are closely connected with the serfs, and indeed in one entry (at Haselor) we find them grouped together.³ They are mentioned in seventeen entries, relating to eighteen places scattered about the county, and were about three dozen in number. At Thurlaston and at Marston Jabbet on the fief of the Count of Meulan, there were respectively one plough and two bondwomen, and one bondwoman and two ploughs on the demesne, and there were no serfs.

Agriculture dominated so completely all other industries, that save for a 'burgess' here and there who is entered as appendant to a manor, and for the 'two smiths' at Wilnecote, we have no other occupations outside Warwick. It must be remembered, however, that Domesday gives us only a partial picture of the national life; it ignores Tamworth and Alcester at least, and it tells us nothing of the urban life that must have existed at Coventry.

Of priests we find mention in some fifty-five entries, and in a very few instances two are spoken of. As I have said above, they are normally grouped with the peasants, but at 'Uptone' two priests with their two ploughs are entered separately. Apart from these parish priests, Ansgot the priest had a hide at Bentley as a tenant of Geoffrey 'de Wirce,' Robert de Stafford's tenant Ludichel is styled a priest in a charter, and an unnamed priest held a virgate of land, under Turchil of Warwick, at Ladbroke.

The Warwickshire survey does not throw much light on questions of tenure, though under Harbury we have the strange statement that the two Englishmen who had held the $4\frac{1}{2}$ hides 'had power to sell, but could not depart (*discedere*) with the land.' This appears to imply that they could not 'commend' themselves with the land to another lord, although they could sell it without obtaining the lord's leave, subject to

¹ See the Introduction to the Domesday Survey in *V.C.H. Worc.* i.

² In this analysis I have only counted those serfs who are quite clearly connected with the lord's demesne.

³ 'v inter servos et ancillas' (244). I have explained in the Worcestershire Domesday, where the phrase is common, how it should be read.

⁴ See p. 278, note 4.

THE DOMESDAY SURVEY

its commendation remaining unchanged. Subinfeudation by an under-tenant occurs on two manors held of the Bishop of Bayeux by one of his great vassals, Wadard; and rent-paying tenants are mentioned at Myton, where eight of them brought in 32 pence a year. Perhaps the most interesting question connected with tenure in the county was that concerning the Bishop of Worcester's manor of Alveston. A moiety of this great manor had been held by Brihtnoth and 'Alwi,' but the county court could not say from whom they had held it. As to the other moiety, the position was very complicated; the six sons of 'Bricstuin' deposed that they knew not whether their father had held it of the Bishop of Worcester or of Earl Leofric, though he did service to (*serviebat*) the latter. They added that Archbishop Ealdred (of York, who had held the see of Worcester) possessed extensive rights over this land, namely sac and soc and 'tol' and 'teim' and churchscot (*cerset*¹) and (the profits of) 'all other (*sic*) forfeitures except those four which the king has throughout his realm.'² As to themselves, 'they had held the land of Earl Leofric and could betake themselves with the land whither they would,'³ that is, as the phrase is understood, could commend themselves and the land to another lord. Bishop Wulfstan, on his side, boldly asserted 'that he had proved his right to this land in a plea held before Queen Matilda in the presence of 4 counties and had King William's writs for it and the witness of the county of Warwick.'⁴

It is very interesting to compare this passage in Domesday with the bishop's charter, purporting to be granted three years later, by which he devotes Alveston to the support of his monks at Worcester. For in it he relates that he acquired the manor, 'which had long been wrongfully possessed by certain powerful men,' from the Conqueror at great trouble and expense,⁵ owing to the growing needs of his monastery.

Another plea is referred to towards the end of the Survey, where we read that Leofwine, an English thegn, asserted that he held the

¹ This due played an important part in the adjoining county of Worcestershire, where it was received (as 'circset') by the abbot of Pershore from 300 hides in the form of loads of grain due at Martinmas. The Bishop of Worcester was entitled to the same (as 'circset' or 'cirsette') from the 300 hides of Oswaldslaw, over which district he possessed most exceptional rights (see Introduction to the Domesday Survey in *V.C.H. Worc.* i. 238). In Warwickshire he also drew 8d. a year from Lapworth at Martinmas (the regular term) 'pro Chirchset' (*Registrum Prioratus B. M. Wigorniensis*, p. 79b).

² On this phrase Professor Maitland comments: 'These four forfeitures are probably the four reserved pleas of the Crown that are mentioned in the laws of Cnut—*mundbryce*, *hamsoen*, *forsteal* and *fyrðwite*. We may construe these terms by breach of the king's special peace, attacks on houses, ambush, neglect of the summons to the host' (*Domesday Book and Beyond*, p. 87).

³ 'quo volebant cum terra poterant se vertere.'

⁴ 'se hanc terram deplacitasse coram regina Mathilde in presentia iiii^{or} vicecomituum et inde habet breves regis Willelmi et testimonium comitatus Warwic.' The mention of the plea being held before the queen (probably in the king's absence abroad) is of interest and importance. The use of the word 'vicecomitatus' for 'county' should also be observed.

⁵ 'Consilio ergo inito cum optimatibus meis terram quandam xv hidarum, que Alfestun ab incolis nominatur, multo tempore a quibusdam potentibus hominibus injuste possessam, maximo labore et pecunie donatione a rege Willelmo seniore adquisivi' (*Registrum Prioratus B.M. Wigorniensis*, p. 84, and Heming's *Cartulary of Worcester* [ed. Hearne], pp. 418-9). In another part of the latter volume (p. 407) it is given as an illustration of William's love for Wulfstan that, at the request of the bishop, he gave him 'terram duorum cassatorum quæ Cullaclif dicitur, et alteram xv cassatorum, quæ Alfestun nominatur.'

A HISTORY OF WARWICKSHIRE

larger portion of his land at Flecknoe of Bishop Wulfstan, 'but the bishop failed him when the plea was held (*in placito*),' and he found himself, therefore, at the king's mercy.¹

There are numerous cases in Warwickshire in which purchase is spoken of, and some in which land is entered as held in pledge (*in vadium*), that is, for money advanced. The abbot of Coventry is asserted to have bought his land at Binley—which had formerly belonged to Ealdgyth, daughter of Ælfgar, and wife of Griffith of North Wales—of Osbern Fitz Richard; and it is a singular fact that, although this land is entered in Domesday under his fief, not under Osbern's, Binley is found long afterwards feudally dependent on Richard's Castle, the head of Osbern's fief.² In Domesday itself there is nothing to show that Broom (in Bidford) had been the subject of a similar transaction between Osbern and Æthelwig, abbot of Evesham. But Dugdale has a curious story, 'ex Coll. H. Ferrers,' that Bishop Odo, having obtained it, gave it to Osbern Fitz Richard, who mortgaged it to Abbot Æthelwig for four marks of gold, parting with it afterwards for good, as he could not repay the money. It is added that, after the death of Odo and of Æthelwig, Osbern seized it again 'and withheld both the land and the money.' The whole story is probable enough, but one cannot well reconcile it with the evidence in Domesday Book. The Evesham chronicle only tells us that Broom was one of the manors acquired by Abbot Æthelwig and seized after his death by Odo.³ It is possible that what really happened, as to these manors, is that Odo contended they had been acquired by the abbot 'for his personal possession only.

Of the abbot of Abingdon's acquisition of Hill and Chesterton I have already spoken.⁵ An estate at Barston⁶ is recorded to have been sold by 'Ailmar,' its former holder, with the king's permission, to 'Alwin' the sheriff, father of Turchil; as the king must here be William, this entry strengthens the evidence that 'Alwin' was sheriff under him. Of Radford we read that Ermenfrid, its under-tenant in 1086, had bought it of Chetelbert⁷ and held it of the king in fee as the king's writ testifies. This seems to imply that he claimed to hold the land *in capite*, not as an under-tenant, on the ground that he had bought it himself. It is on Turchil's fief also that we meet, at Myton, with a somewhat similar difficulty; the Count of Meulan is entered as holding the land 'of Turchil's fee,' but it is added that 'R. Halebold bought this land.' Robert d'Oily gave as his title to the only Warwickshire manor he held in chief that he had bought it 'by leave of King William' from Ælfric its former holder. Robert must have had money at his disposal, for we find him holding two manors of Turchil de Warwic

¹ See also p. 296 below.

² *Red Book of the Exchequer*, p. 604, and *Testa de Nevill*. In the latter the monks of Combe, not of Coventry, are shown as holding at Binley of the Richard's Castle fief, which is wholly at variance with all the history of the place as given by Dugdale. Nor, indeed, is it easy to understand what interest Osbern and his heirs retained there.

³ See p. 274 above.

⁴ See p. 296 below.

⁵ Compare p. 275 above.

⁶ See p. 276 above.

⁷ Brother of Turchil the over-lord (see p. 278).

THE DOMESDAY SURVEY

‘in pledge,’ and he was also probably the ‘Robert’ who held of William Fitz Corbucion one of his manors in pledge. And we find him elsewhere in Domesday thus acquiring land. Possibly he had wrung money out of the burgesses of Oxford; possibly he had farmed to his advantage the royal manors of Warwickshire.¹

Before discussing the sources of rural wealth we may see what we can learn from Domesday’s account of Warwick. The great Survey is always disappointing when it is dealing with the towns; even of those which it does not ignore its account is meagre and obscure. The two points which it seems to have concerned itself with recording are (1) the king’s rights and dues, (2) the payment of the king’s ‘geld,’ that ‘geld’ which may almost be described as the *raison d’être* of Domesday.

We should first note the position occupied by Warwick in the Survey, implying that it stood in some way apart. Professor Maitland has attached significance to the position thus assigned to county towns² by Domesday; it places them, he says, ‘outside the general system of land tenure.’ And the cause of this he finds in what he terms ‘the tenurial heterogeneity of the burgesses.’ At Warwick, says the record, ‘the king has 113 houses in his demesne, and the king’s barons have 112, from all of which the king receives his ‘geld.’ It then draws up a roll of the houses held by the ‘barons,’ and incidentally we may observe that it accounts for 121, not for 112.³ We recognize every ‘baron’ on the list as holding land of the king in chief somewhere in the county, though we have to reckon as ‘barons’ for the purpose not only the lady Christina, but even ‘Luith’ the nun. The record then tells us that all these houses belong to the lands which the said barons hold outside the borough and are valued with them. This is another distinctive feature of county towns in Domesday, and it has given rise to much theorizing,⁴ which has failed, however, to gain acceptance.

The difficulty in dealing with these houses is that, on analysing the Survey, we can only discover in all twenty-three houses entered under rural manors as appurtenant to them in Warwick. The Bishop of Worcester’s manors reveal seven houses instead of nine; those of Ralf de Limesi seven instead of nine; those of Robert de Stafford four instead of six. Of the other ‘barons’ Hugh de Grentmesnil has two instead of four, and Turchil one instead of four; William Fitz Corbucion alone has two as in the borough list. The only explanation one can offer is that the missing houses are included in the values of other manors without their existence being mentioned. The vagaries of Domesday are endless.⁵

Alveston and Bishop’s Hampton, south-west of Warwick, are credited with three and with four houses respectively; Budbrooke,

¹ The other local case of holding land in pledge is at Chesterton, to which I have referred on p. 276.

² *Domesday Book and Beyond*, pp. 176–7.

³ This may be due to a scribal miscript, such as sometimes occurs in Domesday, ‘cxii.’ being written in error for ‘cxi.’

⁴ *Domesday Book and Beyond*, pp. 179–90.

⁵ Apart from these houses Hugh de Grentmesnil had ‘two burgesses in Warwick’ appurtenant to his manor of Marston.

A HISTORY OF WARWICKSHIRE

close to the borough, with seven; Tysoe, far to the south, with three; and Atherstone-on-Stour, Billesley, Coughton, and Bearley, in the west of the county, with one apiece. Pillerton in the south and Wolverton near Warwick had also a house apiece. Four of these houses were valued at eightpence a year each and some at fourpence, but Ralf de Limesi's averaged a shilling each. Fourpence is markedly common in Domesday as a unit of rent for houses in towns.

From the 'barons' the record turns to those humbler folk, the 'burgesses,' nineteen of whom, it tells us, had houses 'with sac and soc and all customary dues and so held them in King Edward's time.' This, in Professor Maitland's opinion, is a 'difficult' passage, and he suggests that 'we are likely to see here a relic of the ancient "house-peace,"' and of the due payable to its owner for breaking it.¹ Only four houses are entered as having been pulled down to make room for the castle (*propter situm castelli*), but the fact that any had to be destroyed supports the view that William founded,² rather than repaired, the stronghold.

The service by land and sea to which the burgesses of Warwick were liable was represented, as in other cases, by a fixed commutation. When the king went forth to war by land, ten burgesses joined him on behalf of the whole body, and the man who was summoned and failed to go had to pay five pounds, clearly the *fyrð-wite*. When the king sailed against his foes by sea, the burgesses could send him four 'bat-sueins' or four pounds in money. The liability of a town so far inland as Warwick to provide mariners has been deemed a difficulty³; but we have to remember that at that period rivers were larger and vessels smaller. In the adjoining county of Worcestershire we meet with Turchil, 'King Edward's steersman' (*stirman*, fo. 174b), and Eadric, 'who was in King Edward's time steersman (*stermannus*) of the Bishop (of Worcester)'s ship and leader of his men in the King's service.'⁴ We read of William employing ships and 'buthsecarlas' in his siege of the Isle of Ely, and the Domesday entry on Malmesbury is worth comparing with the Warwick one, for we read there (fo. 64b) of the town sending the king twenty shillings 'ad pascendos suos buzecarl' or of one man going thence in person. The Warwick 'batsueins,' in short, would serve as mariners in the fleet, and the doings of the dreaded Danes had proved that their long galleys could penetrate far up the English rivers.

With the king's dues from the borough I have already dealt,⁵ but Earl Eadwine's dues annexed to his manor of 'Cotes' present a point of difficulty. For 'the borough' is spoken of as if the earl received all its dues.⁶ This he cannot have done, as the opposite column shows. I

¹ *Domesday Book and Beyond*, pp. 98-9.

² See p. 277, note 1, above.

³ Mr. Benjamin Walker in his 'Notes' on the Domesday Survey of Warwickshire (pp. 4-5) observes that 'boatswain, by which we understand a steersman or some sort of petty officer on board a ship, would be very far from a correct translation of "batsuein" in the present case. . . . they furnished his navy with four "Boat-servants," without implying that they possessed any knowledge of navigation, which, indeed, could not be expected in inhabitants of such an inland town as Warwick.'

⁴ Heming's Cartulary, p. 82.

⁵ See p. 271.

⁶ 'Hec terra cum burgo de Warwic,' etc., etc.

THE DOMESDAY SURVEY

conclude, therefore, that by 'the borough' Domesday means that 'third penny' of the borough dues which was normally the earl's portion. Another item helped to swell the income he received from 'Cotes ;' a hundred bordars paid him fifty shillings a year in respect of their gardens 'outside Warwick.' Gardening on this extensive scale is probably unique in Domesday.¹

The realm described by Domesday is a realm in which the plough is king. To the ordinary reader there is something irksome in the dry, endless figures relating to the plough-land and the plough, and even the expert has to confess that he does not fully apprehend their significance or their intention. But whether or not the Conqueror and his ministers proposed to revise the system of land taxation, it is clear that they attached great importance to obtaining a record of the arable land and of the ploughs at work on it. In Warwickshire the feature that seems to call for special notice is the occurrence at certain places of a number of plough-teams in excess of that for which the land was reckoned to afford employment. At Bishop's Hampton, with land for twenty-two ploughs, there were two, we find, on the demesne and twenty-four outside it. Sowe, with its five plough-lands, had six plough-teams, and at Radway, with its six, there were six and a half. Charlecote had land for five ploughs, but on the demesne were two, and five outside it. That such excess was not due to mere scribal error, but was recognized by the commissioners is shown by the case of Wolfhamcote, where there were two plough-lands, 'and yet,' they add, 'there are there three ploughs.' The same formula is used at Ladbroke, at Newton and at Holme, at each of which there was one for half a ploughland, at Walcote also, which for its one plough-land had two and a half ploughs, and at Lillington, where the discrepancy was so great that for only half a plough-land there were two ploughs.

The value of a manor varied mainly with the amount of stock on it and especially of plough-oxen. When all the plough-oxen were gone, the manor was described as 'waste,' for the land could not be worked. Of this 'waste' land there was not much in Warwickshire. A 'hide' at 'Rincele' is so described; a hide and a half at Kington, a hide at one of the Marstons, and a virgate and a half at Weston appear to complete the list, save for $1\frac{1}{4}$ hides at Harbury which are specially entered as laid 'waste by the king's army.'

Among the sources of rural wealth in addition to the ploughed land were the woodland, which was very extensive, the pasture for the stock, the watermills, and the meadows in the river-valleys. Although in Warwickshire the woodland is reckoned by rough estimates of its area, and not, as in certain other counties, by the number of swine it could feed,² its chief value as affording mast is implied by such entries as those at

¹ But it mentions twenty-three men with gardens at Holywell, a suburb of Oxford.

² At Stoneleigh, however, the information is added that it could feed 2,000 swine, and at Coughton there was reckoned to be pasture for 50 swine. At Kington by Claverdon it is reckoned in yet another way, as worth ten shillings a year.

A HISTORY OF WARWICKSHIRE

Sutton Coldfield, Fillongley, 'Rincele,' Claverdon, Sowley, Bedworth, Packington, 'Ulverlei' and Arley, where the phrase 'cum oneratur' refers to the mast it bore. At Erdington alone, near the Staffordshire border, is the woodland claimed as 'in defenso regis,' that is, as set apart for the king and his hunting; but at Southam, at the other end of the county, the woodland was 'in the king's hands.' A grove (*grava*) is spoken of at Lighthorne and a *spinetum* at Weston, the latter being, probably, rather a thorn-wood than what we now call a 'spinny.' There is an unusual entry under Sowe, which records that the woodland of the king and of the abbot (of Coventry) and of Richard the forester together, was three 'leagues' long and 1 'league' wide. The 'league' of Domesday, it is true, was only a mile and a half, but one cannot insist too strongly on the utter vagueness of such statements and the folly of treating them as exact. The same remark applies to the 'hay' (*baia*) at 'Donnelie,' 'half a league long and the same in width,' a fenced enclosure for capturing wild animals in what was then and long afterwards 'a wild Forest ground.'

Of profits from pasture and from meadow we hear less than usual; but at 'Cotes' by Warwick they were valued at the large sum of £4, perhaps owing to the nearness of the borough, for it was only in exceptional cases that either served for more than the lord and his peasants.

The mill is one of the very few features of the Domesday Survey that can often be recognized to-day standing where it stood then. Indeed, as Mr. Walker has observed of 'Offeworde':—

In Dugdale's time the only indication of this place was a mill known as Offord's mill; this name has now disappeared, although the mill is still shown on the ordnance survey maps.¹

Many mills at the time of the Survey paid their rent partly in kind, especially in eels from the mill pond. Twenty-five eels went to the 'stich,' of which measure a fixed number was usually due. Eels were due in this county from the mills of Stratford-on-Avon, Alveston, Atherstone-on-Stour, Wixford, Salford, Wootton Wawen, Sperrall, Aston, and Barford, while that of Wasperton produced no less than twenty shillings, 1,000 eels, and four (horse)loads of salt, and that of Binton was responsible for four (horse)loads of grain, and three 'stiches' of eels.

Salt, at that time a valuable commodity, was produced either from saltpans on the coast or from inland brine-springs, as at Droitwich and Nantwich. The six Warwickshire entries in which it is mentioned deserve careful study, for, in my opinion, they all refer to salt obtained from Droitwich, which is less than ten miles from the Warwickshire border. This is expressly so stated in the case of Binton, where the revenue of its lord, William Fitz Corbucion, included three loads (*summas*) of salt from (Droit)wich,² and in that of Urse de Abetot's manor at Hill-

¹ *Some Notes on Domesday Book*, p. 37.

² The load seems to have been a 'mitta' of salt, for we read that the tenants of the church of Worcester at Broadwas (Worc.) had to find horses, on Sundays, to carry salt from (Droit)Wich to Worcester, and that each horse was to carry 'unam mittam' (*Registrum Prioratus B.M. Wigorniensis*, p. 34^a).

THE DOMESDAY SURVEY

borough, to which was appurtenant 'a saltpan in (Droit)wich, rendering three shillings.' Urse was the great man at Droitwich, and appears to have assigned salt from it to some of his manors. Therefore when we read of Studley, the seat of William Fitz Corbucion, that it included a saltpan rendering nineteen (horse)loads of salt,¹ we have to remember that William also had interests at Droitwich in the salt, and that, consequently, this saltpan was probably there, not at Studley. This is likely to have been the case also with the saltpan entered under Haselor, a manor of Nicholas, and with the salt rendered by Wasperton mill. The other mention of salt is at Brailes, the render from which manor included twenty (horse)loads.

The problem of the Domesday Hundreds of Warwickshire is closely connected with questions of local identification. Where, as here, there are several places bearing the same name—Compton, for instance—one is often dependent on the Hundredal headings for distinguishing one from the other. But in Warwickshire these headings are at times omitted by the scribe; the Hundreds themselves, moreover, were subsequently re-arranged; and, lastly, the sequence of Hundreds in the text appears to me irregular.

To take the last of these points first, it must always be remembered that we see in Domesday only a compilation, made from original returns in the form of Hundred Rolls. The compiler is supposed to have gone through these rolls for each fief in turn, picking out those manors which belonged to its tenant-in-chief, so as to bring them together. For Warwickshire he first picked out the manors retained 'in demesne,' and then went through the rolls again to collect those in which the 'baron' had enfeoffed his under-tenants. This is well seen on the fiefs of the Count of Meulan, of Turchil of Warwick, and of Hugh de Grentmesnil, where a space is left in the manuscript between the two classes. Oddly enough, on the fief of William Fitz Corbucion he reversed his normal order and placed the demesne manors last.

If this process had been carried out, as in some counties, with regularity, the Hundreds would follow in a strict sequence which would help us to identify a manor where the heading was omitted. But a careful analysis of the fiefs shows that the sequence cannot be relied on. Eight fiefs, it is true, show us the Hundred of 'Fernecumbe' following immediately on that of 'Tremelau,' while 'Meretone' precedes 'Stanlei' in six cases; but 'Bomelau' appears twice before and once after 'Meretone'; 'Stanlei' once after and once before 'Honesberie,' and 'Patelau' once before and once after 'Berricestone.'

For a study of the Domesday Hundreds of the county we are indebted to Mr. Benjamin Walker,³ who has shown that they were ten in number. It is one of our difficulties in Warwickshire that these have

¹ See note 2 previous page.

² On the subinfeudated portion of Robert de Stafford's fief the Hundreds appear in this order: Patelau, Stanlei, Bedricestone, Fernecumbe, Berricestone, Patelau.

³ See 'The Hundreds of Warwickshire at the time of the Domesday Survey,' with map, in the *Antiquary*, xxxix. 146-51, 179-84.

A HISTORY OF WARWICKSHIRE

all disappeared, their place being taken by four only, which bear different names. Mr. Walker shows that Hemlingford Hundred practically represents the Domesday Hundred of 'Coleshelle'; that Knightlow is composed of the Domesday Hundreds of 'Bomelau,' 'Meretone,' and 'Stanlei'; that 'Tremelau,' 'Honesberie,' 'Fexhole,' and 'Berricestone' form what is now Kineton; and that 'Barlichway,' a name as old as 1176, represents the Domesday Hundred of 'Fernecumbe,' with the addition of that Pathlow Liberty, the 'Patelau' of Domesday, which continued long afterwards to cut it in two. 'Berricestone,' according to Mr. Walker's map,¹ was similarly cut in two, while 'Fexhole' consisted of two portions widely detached.

This is not the place in which to discuss the development of the later Hundreds, the term 'Sipe socha' as connected with them, or the subsequent appearance as 'leets' of the three Domesday Hundreds,² which went to form Knightlow. Such points as these, together with the names of the places from which the Hundreds were called and where their assemblies met, will be discussed under each Hundred. The very boundaries of the Domesday Hundreds are by no means absolutely clear, and although they are occasionally referred to in the notes to the text, they are not of much importance.

The identification of Domesday manors is often a work of extreme difficulty, but is one which cannot be shirked. Mr. Carter, fortunately, in his notes to the text has been able to diminish the number of those which have hitherto remained unidentified.³ I do not propose, therefore, to deal with the matter myself beyond touching on the cases of 'Surland' and 'Optone.' With regard to the former, our difficulty is that this substantial manor is not mentioned, so far as we know, after Domesday, although it ought to occur, as in the record, among the possessions of Coventry Priory. Mr. Carter's suggestion that it represents the abbey's portion of Coventry itself (which is not entered in Domesday) would obviously meet this difficulty; but Domesday distinctly places 'Surland' between Grandborough and Birdingbury in 'Meretone' Hundred, which is inconsistent with that solution. At present, therefore, I cannot suggest where 'Surland' was. As to 'Optone,' I agree with Mr. Carter in rejecting Dugdale's guess (for it can have been nothing else) that it was part of Kenilworth.⁴ The only actual evidence we have is: (1) that of Domesday, which tells us that 'Optone' and Kenilworth were both members of Stoneleigh; (2) that of the Stoneleigh cartulary, which asserts that in the time of Edward the Confessor the members of Stoneleigh were Kenilworth, Baginton, Ryton, and Stretton.⁵ Dugdale was ac-

¹ See *Antiquary*, xxxix. p. 147.

² 'Meretone' and 'Stanlei,' as Dugdale shows, appeared for a time as 'Hundreds' and then as 'Leets,' while 'Brinklow,' which appears to represent the Domesday Hundred of 'Bomelau,' did the same.

³ Compare Mr. Benjamin Walker's *Some Notes on Domesday Book*, p. 10.

⁴ Ibid. p. 37. Dugdale's words are: 'this being that part of Kenilworth which now the inhabitants call the High Town, and situate upon the ascent upon the north part of the Church.'

⁵ 'Edwardus rex habuit in dominico suo hereditario manerium de Stonle cum membris, videlicet Kenilworth, Bakyngtone, Ruytone, et Stratone,' etc.

THE DOMESDAY SURVEY

quainted with this statement, and pointed out, as confirmation of it, that Baginton was included as a chapelry of Stoneleigh in a grant *temp.* Henry II. ; but he did not draw from it what would seem to be the natural inference, namely, that, just as Kenilworth to the west was a member of Stoneleigh, so 'Optone' must be sought somewhere in the three adjoining villis of Baginton, Ryton, and Stretton-on-Dunsmore to the east. Under Baginton and Ryton he rejects the statement of the same Stoneleigh cartulary that they were given to the Ardens by Henry I., on the just ground that Turchil held them as early as 1086. But if 'Optone' lay within them, it might conceivably have been so granted, and its identity thus lost in the manors they already held there. This, however, can only be conjecture in the absence of further evidence.

If we could only be sure of the forms of Domesday names, the work of identification would present less difficulty. But those we find in Warwickshire are enough to show that we cannot. Barston is represented by 'Bercestone' and by 'Bertanestone.' 'Berdingeberie' occurs also, by transposition, as 'Derbingerie.' Burmington is 'Burdintone' in Domesday. Harbury is 'Edburberie,' but also 'Erburgeberie.' 'Filunger' and 'Felingelai' both represent Fillongley. 'Ilmedone' and 'Edelmitone' are variant forms of Ilmington. Both 'Tacesbroc' and 'Taschebroc' stand for Tachbrook, as do 'Wara' and 'Gaura' for Over. Willoughby masquerades as 'Wilebec,' 'Wilebene,' and 'Wilebere,' and Wormleighton as 'Wimelestone,' 'Wimenestone,' and 'Wimerestone.' 'Worwarde' and 'Volwarde' are both considered to represent Great Wolford.

In the midlands we have to be always on our watch for that strange transposition of manors, which is one of the puzzles of Domesday. Just as two manors in the Staffordshire Hundred of Cuttlestone have wandered into the Northamptonshire portion of the great Survey,¹ so we find surveyed under Warwickshire quite a group of manors on the border of Staffordshire and Shropshire. On the Staffordshire side of it are Essington, Bushbury, and Chillington in Brewood, all in the Hundred of Cuttlestone; on the Shropshire side are Quatt, Romsley, Rudge, and Shipley near Bridgenorth. Under Warwickshire also we find surveyed the important manor of Spilsbury in the west of Oxfordshire, while of Mollington, a manor of ten hides where three counties meet, five hides are surveyed under Warwickshire, four under Oxfordshire and one under Northamptonshire! A parallel case is that of the Overs, which lay on the border of Warwickshire and Northamptonshire, William Fitz Ansculf's estate of one hide at 'Wavre' being found under Northants. In Northamptonshire also, we find the survey of Turchil's manor of Sawbridge, of the Count of Meulan's estates at Berkswell² and Whitacre, and apparently of Whichford, which is not mentioned under Warwickshire in Domesday.³

¹ See *V.C.H. Northants*, i., and p. 344 below.

² i.e. 4 hides in addition to the 1 hide under Warwickshire.

³ My ground for identifying Gilbert de Gant's manor of 'Wicford,' placed under Northamptonshire by Domesday, with Whichford in the south of Warwickshire is solely that its church was given to

A HISTORY OF WARWICKSHIRE

The duplicate entries which are sometimes found in the great Survey are of value for the light they throw on the methods of its compilation. In Warwickshire the only certain example is afforded by Clifton, which the scribes, as they sometimes did in such cases, dealt with in two places. Turchil's father, Ælfwine the sheriff, had bestowed the manor on the church of Coventry, which had been despoiled of it by Earl Aubrey, whose land, at the time of the Survey, was in the king's hands. The scribes, when recording the Coventry manors, added at the foot of the column an entry dealing with the case; but they reckoned the manor among those that Earl Aubrey had held, although a marginal note alluded to the church's claim. We observe, on comparing the two entries, that the case for the church is distinctly stronger in the first of the two, the validity of Ælfwine's grant and the wrongfulness of the earl's action being clearly expressed:—

CHURCH OF COVENTRY

fo. 238b

'Huic æcclesiæ dedit Alwinus vicecomes Cliptone concessu regis E. et filiorum suorum pro anima sua et testimonio comitatus. Comes Albericus hanc injuste invasit et æcclesiæ abstulit.'

EARL AUBREY

fo. 239b

'Hanc terram dedit Alwin æcclesiæ de Coventreu pro anima sua T.R.E. Comes Albericus abstulit.'

In the first of these entries we seem to be hearing the monks' own story, while the second appears to be a marginal note based upon the first.

Another case in which an estate is almost certainly entered twice over is that, as Mr. Carter points out, of the $2\frac{1}{2}$ hides held by Leofwine at Flecknoe. These are first entered as held of the Bishop of Worcester by Leofwine, and then, at the end of the Survey, appear as held by Leofwine (as he said, but failed to prove) of the bishop. Here, the tenure being disputed, a duplicate entry, it would appear, was made.

Isdem episcopus tenet in Flechenho ii hidas et dim. virgatum terræ, et Lewin de eo. Terra est ii car. Ibi sunt ii villani et i bordarius cum i car. Ibi vi acre prati. T.R.E. et post valebat x solidos. Modo xxⁱⁱ solidos (fo. 238b).

Lewin' tenet de rege ii hidas et dim. virgatum terræ in Flechenho. Terra est ii car. Ibi est una cum ii villanis et i bordario et vi acris prati. Valuit x solidos. Modo xx. solidos (fo. 244b).

I have spoken of this dispute on p. 288 above.

It is thought that the two entries under 'Bertanestone' (Barston) may be duplicates, for the two surveys would be identical were it not that the first gives 9 hides and 11 ploughlands, and the second 10 hides and 10 ploughlands. But the one shows us 'R. de Olgi' holding the manor of Turchil, while the other makes Robert the Dispenser hold it in demesne. The alternative, of course, is that we are dealing with two moieties of what was one estate, as is certainly the case at Shuttington.

Bridlington Priory, which was founded by his son and closely connected with his house. It seems difficult to account for the gift in any other way, but the manorial evidence does not seem to support the identification.

THE DOMESDAY SURVEY

We have there a 'five-hide' manor divided before the Conquest into two equal moieties of $2\frac{1}{2}$ hides each, with an equal share of the woodland and of the mill in each ; but one moiety had three ploughlands, and the other five, though their 'values' were the same. One of these moieties, it is clear, had again been subdivided, although it was reunited under the Norman rule. For the feudal system arrested sharply that process of disintegration which had exposed to crushing defeat at the hands of knights and nobles a host of small landowners, of almost anarchic yeomen.

NOTE

The reader should bear in mind throughout that the date of the Domesday Survey is 1086 ; that the time of King Edward (here expressed by T.R.E.), to which it refers, normally means the date of his death (5 January 1066), and that the intermediate date, which is spoken of as 'afterwards,' is that at which the estate passed into the hands of the new holder.

The Domesday 'hide' was a unit of assessment divided into four quarters called 'virgates,' each of which was reckoned to contain 30 'acres'; but these were merely fiscal, not areal measures. 'Demesne' was that portion of a manor which the holder (whether a tenant-in-chief or only an under-tenant) worked as a home farm with the help of labour due from the peasants who held the rest from him. But when the term 'demesne' is applied to a fief, it denotes those of its manors which remained in the baron's hands and were not held of him by under-tenants. Of the peasantry, the three main classes were, in descending order, villeins, bordars and serfs. The classes above them are dealt with in the Introduction. The essential element of the plough ('caruca') was its team of oxen, always reckoned in Domesday as eight in number. The 'league' of the record appears to have been a mile and a half long (see Introduction, p. 292).

It must always be remembered that when Domesday speaks of a place as held by a certain tenant, it does not follow that the whole of it is thereby meant. For the vills often comprised other manors which form the subject of separate entries.

The notes of the text which are initialled J.H.R. have been added by Mr. Round, the Domesday editor. Those to which B.W. is appended are contributed by Mr. Benjamin Walker, who kindly read the proofs.

NOTE TO DOMESDAY MAP

COMPILED BY BENJAMIN WALKER, A.R.I.B.A.

On the accompanying map the manors held by the king are shown by red capitals; those held by the chief ecclesiastical tenant, the abbey of Coventry, by red small type; and those held by the chief lay tenant, the Count of Meulan, by black capitals. The asterisk against some of the abbey's manors indicates that the Count of Meulan also had an interest there.

For the sake of uniformity and convenience of reference the modern boundaries of the county are given. These probably differ but little from those in Domesday times except in the extreme south, where the parish of Little Compton, formerly belonging to Gloucestershire, has been transferred to Warwickshire. Neither the rivers nor the three great ancient ways,—the Watling Street, the Fosse Way, and the Icknield Street,—are mentioned in the Survey, but they are so necessary to the understanding of the map that they have been added.

The general positions of the ten hundreds into which the county was divided in Domesday times are shown upon the map; but as the rubrication of the Survey is not sufficiently accurate to enable them to be reconstructed with certainty, no attempt has been made to indicate their boundaries.

In those cases where Domesday Book records a name in two or more different forms only one of the variants can be given on the map.

The natural characteristics of the district are well shown by the varying density of the names upon the map. This density is greatest in the fertile valleys of the Arrow and the Avon, and least in the forest district of the Arden in the west and north-west of the county.

In fixing the position of manors the church has been the guide. The manors of Rincele and Werlavescote are not marked on the map, as their positions could not be identified.

DOMESDAY MAP

REFERENCE TO COLOURING

BRAILES
The Kings' Manors thus

Sucham
The Abbey of Coventry's Manors thus

WIDECOTE
The Count of Moulans' Manors thus

Stratone
Other Manors and holdings thus







WARWICSCIRE

IN THE BOROUGH OF WARWIC(K) the king has in his demesne 113 houses and the king's barons have 112,¹ from all of which the king has his geld.

The Bishop of Worcester (*Wirecestre*) has 9 messuages (*masuras*). The Bishop of Chester 7. The Abbot of Coventry 36, and 4² (of these) are (laid) waste to make room for the castle (*propter situm castelli*). The Bishop of Coutances has 1 house. The Count of Meulan (*Mellend*) (has) 12 messuages. Earl Aubrey had 4, which belong to the land which he held. Hugh de Grentemaisnil (has) 4, and the monks of Pilardintone [Pillerton] have 1 from him. Henry de Fereres has 2. Harold 2. Robert de Stadford [Stafford] 6. Roger de Ivri (*iuri*) 2. Richard the huntsman (*venator*) 1. Ralf de Limesi 9. The Abbot of Malmesbury 1. William Bonuaslet 1. William son of Corbucion 2. Geoffrey de Magneville 1. Geoffrey de Wirce 1. Gilbert de Gant 2. Gilbert Buili³ 1. Nicholas the crossbowman (*balistarius*) 1. Stephen Stirman 1. Turchil 4. Harold 2. Osbern son of Richard 1. Cristina 1. Luith the nun (*monialis*) 2. These messuages (*masuræ*) are appurtenant to the lands which the same (*ipsi*) barons hold outside the borough and are there taken into account (*appreciantur*). Besides these above-mentioned messuages there are in the same (*ipso*) borough 19 burgesses, who have 19 messuages with sac and soc and all customary rights (*consuetudinibus*) and thus had (them) T.R.E.

In the time of King Edward the shrievalty (*vicecomitatus*) of Warwic(k) with the borough and with the royal manors paid 65 pounds and 36 sestars (*sextaria*) of honey; or 24 pounds and 8 shillings in place of all (dues) pertaining to honey.

Now, what with (*inter*) the farm of the royal manors and the pleas of the county, it pays yearly 145 pounds by weight, and 23 pounds for the customary payment for dogs (*consuetudine canum*), and 20 shillings for a sumpter-horse (*summario*), and 10 pounds for a hawk, and 100 shillings to the queen for a benevolence (*gersumma*).

It also pays 24 sestars of honey by (*cum*) the greater measure and from the borough 6 sestars of honey, a sestar to wit for 15 pence.

¹ Note the total, 225—i.e. two and a quarter hundreds—but also see next note.

² As the total number of houses here recorded is 116, not 112, this entry no doubt means that the 4 were part of the 36, so that the abbot is reckoned as having only 32. But see Introduction, p. 298.

³ This certainly appears the correct reading, not 'Budi,' as the official edition reads. (The only tenant in-chief whom this can represent is Gilbert son of Turolde.—J.H.R.)

A HISTORY OF WARWICKSHIRE

From these the Count of Meulan (*Mellend*) has 6 sestars and 5 shillings.

The custom of Warwic(k) was that when the king goes by land on an expedition 10 burgesses of Warwic(k) should go on behalf of (*pro*) all the others.

(He) who did not go when summoned used to pay 100 shillings fine (*emendabat*) to the king.

If however the king were going against his enemies by sea (the burgesses) used to send him either 4 boatswains (*batsueins*) or 4 pounds of pennies.¹

HERE ARE ENTERED THOSE HOLDING LANDS IN WARWICSCIRE

I KING WILLIAM	xxii Robert de Statford
II The Bishop of Chester	xxiii Robert Dispensator
III The Bishop of Worcester	xxiiii Robert de Veci
IIII The Bishop of Bayeux	xxv Ralf de Mortemer
v The Bishop of Coutances	xxvi Ralf de Limesi
vi The abbey of Coventry	xxvii William son of Ansculf
vii The abbey of Abingdon	xxviii William son of Corbucion
viii The abbey of Burton	xxix William Buenvasleth
ix The abbey of Malmesbury	xxx Geoffrey de Manneville
x The abbey of Winchcombe	xxxi Geoffrey de Wirce
xi The abbey of Evesham	xxxii Gilbert de Gand
xii Earl Roger	xxxiii Gilbert son of Turolde
xiii Earl Hugh	xxxiv Gerin
iiii Earl Aubrey	xxxv Urse de Abetot
xv Countess Godeva	xxxvi Stephen
xvi The Count of Meulan	xxxvii Osbern son of Richard
xvii Turchil of Warwick	xxxviii Harold son of Earl Ralf
xviii Hugh de Grentemaisnil	xxxviii ² Hascoit Musard
xix Henry de Ferieres	xxxix Nicolas the crossbowman
xx Roger de Ivri (Juri)	xli Nigel de Albengi
xxi Robert de Oilgi	
xlj Cristina. xliii Leveva and Eddid	xlvi Richard and other
thegns and serjeants (<i>servientes</i>) of the king.	xlvi Adeliza wife of Hugh
(de Grentemaisnil).	

¹ See the Introduction (pp. 289, 290) for the whole of this opening section.

² *Sic.* The scribe having numbered two entries xxxviii did not think it worth while, or perhaps was not permitted, to correct the second entry and the one which followed it, so solved the difficulty by leaping straight from xxxix to xli.

THE HOLDERS OF LANDS

I. THE LAND OF THE KING

IN FEXHOLE HUNDRET ¹

The king holds BRAILES [Brailes]. Earl Edwin held it. There are 46 hides. There is land for 60 ploughs. In the demesne are 6 (ploughs), and 12 serfs, and 3 bondwomen (*ancillæ*). And (there are) 100 villeins and 30 bordars with 46 ploughs. There is a mill worth (*de*) 10 shillings, and 100 acres of meadow. Wood(land) 3 leagues long and 2 leagues wide. T.R.E. it used to pay 17 pounds and 10 shillings. Now it is worth 55 pounds and 20 loads (*summas*) of salt.

The king holds QUINTONE [Kineton] ² and WALEBORNE [Wellesbourne]. ³ King Edward held (them). There are 3 hides. There is land for ⁴ . In the demesne are 6 ploughs, and 3 serfs and 2 bondwomen. And (there are) 93 ⁵ villeins and 18 bordars with 32 ploughs. There (are) 130 acres of meadow. Wood(land) half a league and 2 furlongs long and 4 furlongs broad. This is (shared) between the manor and the bere-wick.

The king holds BEDEFORD [Bidford]. King Edward held it. There are 5 hides. There is land for ⁴ . In the demesne are 5 ploughs, and 8 serfs and 5 bondwomen. And (there are) 28 villeins and 13 bordars with 16 ploughs. There are 4 mills worth (*de*) 43 shillings and 4 pence, and 150 acres of meadow. Wood(land) 4 leagues long and 1 league broad.

The king holds STANLEI [Stoneleigh]. King Edward held it. There are 6 hides. There is land for ⁴ . In the demesne are 5 ploughs, and 1 serf and 1 bondwoman. And 68 villeins and 4 bordars with 2 priests

¹ These three words are written above the column, but in the Warwickshire Domesday the rubricated Hundred can only be assumed to relate to the paragraph by or over which it stands. The only places certainly known to have been in Fex-hole Hundred are Brailes and three places close to it, namely Honington, Oxhill and Tysoe.

² Doubtless Kineton, which was afterward the head of an important Hundred and is near to Wellesbourne. Dugdale did not see this, and being misled by the similarity of name says that Wellesbourne was joined to Quinton in Gloucestershire (see p. 439), and yet he was puzzled at the absence of Kineton (p. 431).

³ Doubtless both Wellesbourne Hastang (now Hastings) and Wellesbourne Mountford, which are in Kineton Hundred.

⁴ Here is a space left blank in the original.

⁵ Literally, 'a hundred villeins less seven.'

have 30 ploughs. There (are) 2 mills worth (*de*) 35 shillings and 4 pence, and 20 acres of meadow. Wood(land) 4 leagues long and 2 leagues broad. Feed for (*past' ad*) 2,000 swine.

The king holds COLESHELLE [Coleshill]. King Edward held it. There are 3 hides. There is land for ⁶ . There 30 villeins with a priest and 13 bordars have 16 ploughs. There (is) a mill worth (*de*) 40 pence, and in Tameworde [Tamworth] 10 burgesses belong to this manor. Wood(land) 3 leagues long and 2½ leagues broad.

The king holds CORES [Coton (End)]. ⁷ Earl Edwin held it. There is 1 hide. There is land for 20 ploughs. In the demesne is 1, and 4 serfs. And (there are) 10 villeins and 6 bordars with 3 ploughs. There (are) 2 mills worth (*de*) 100 shillings, and 80 acres of meadow. Wood(land) 3 furlongs long and the same in breadth. Meadows and pastures worth 4 pounds. Outside the borough [Warwick] 100 bordars with their garden-plots (*hortulis*) pay 50 shillings rent. This land, with the borough of Warwic(k) and the third penny of the pleas of the shire, used to pay T.R.E. 17 pounds. ⁸ When Robert ⁹ received it to farm it was worth 30 pounds. Now (it is worth) the same, including all things which belong to it.

The king holds SUTONE [Sutton Cold-field]. ¹⁰ Earl Edwin held it. There are 8 hides and 1 virgate of land. There is land for 22 ploughs. One plough is in the demesne, and 2 serfs. And (there are) 20 villeins and 4 bordars with 7 ploughs. There (are) 10 acres of meadow. Wood(land) 2 leagues long and 1 broad; when it bears (*onerat'*) it is worth 30 shillings. The whole manor was and is worth 4 pounds.

In OPTONE ¹¹ [] Albert the clerk ¹² holds 3 hides of the king in frankalmoin (*elemos'*). There are 2 priests with 2 ploughs, and 10 villeins and bordars ¹³ with 4 ploughs.

⁶ Here is a space left blank in the original.

⁷ An unimportant suburb of Warwick.

⁸ See Introduction, pp. 290, 291.

⁹ Probably Robert d'Oilli (J.H.R.).

¹⁰ Well known as a royal borough.

¹¹ I cannot identify this place. Dugdale thinks it was the part of Kenilworth, north of the church, then called the 'High Town.' There are two Uptons in the county, neither having any trace of a connection with Stoneleigh.

¹² See Introduction, p. 281.

¹³ 'X inter villanos et bordarios.'

A HISTORY OF WARWICKSHIRE

Wood(land) half a league long and 3 furlongs broad.

In CHINEWRDE [Kenilworth]¹ Richard the forester² holds 3 virgates of land of the king. There are 10 villeins and 7 bordars with 3 ploughs. Wood(land) half a league long and 4 furlongs broad. These two members belong to (*jac' ad*) STANLEI [Stoneleigh], a manor of the king.

fo. 298b

II. THE LAND OF THE BISHOP OF CHESTER

IN HONESBERIE HUNDRET

The Bishop of Chester holds of the King 3 hides in FERNEBERGE [Farnborough]. Stori held them T.R.E., and was a free man. There is land for 14 ploughs. One is in the demesne, and 2 serfs. And (there are) 18 villeins and 1 bordar with 9 ploughs. There are 60 acres of meadow. T.R.E. it was worth 100 shillings; when (the bishop) received it 60 shillings; now 100 shillings.

IN COLESHELLE [COLESHILL] HUNDRET

The same bishop holds in CALDECOTE [Caldecote juxta Weddington]³ 2 hides. There is land for 6 ploughs. One is in the demesne, and 2 serfs. And 7 villeins with a priest have 5 ploughs. There (is) a mill worth (*de*) 2 shillings, and 12 acres of meadow. Wood(land) 3 leagues long and the same in breadth. T.R.E. it was worth 40 shillings, and afterwards and now, 60 shillings. Tonna held this land, but could not betake himself⁴ (*ire*) where he would with his land.

IN TREMELAU HUNDRET

The same bishop holds 7 hides in TASCHEBROC [Bishop's Tachbrook].⁵ There is land for 12 ploughs. In the demesne are 2 ploughs and 9 serfs. And 11 villeins with a priest and 7 bordars have 9 ploughs. There (are) 2 mills worth (*de*) 12 shillings and 8 pence, and 12 acres of meadow. T.R.E. it was worth 3 pounds, now 7 pounds, and the same when (the bishop) received it. This land belongs to (*est de*) the church of S. Chad.⁶

¹ This identification seems clear. Kenilworth subsequently appears in the leet of Stoneleigh.

² See Introduction, p. 281.

³ In Hemlingford Hundred, which represents the Domesday Hundred of Coleshill.

⁴ i.e. choose a lord.

⁵ The modern Bishop's Tachbrook includes the hamlet of Tachbrook Mallory, which is distinguished from it in Domesday Book.

⁶ 'S. Cedde,' i.e. Lichfield.

III. THE LAND OF THE BISHOP OF WORCESTER⁷

IN PATELAU [PATHLOW] HUNDRET

The bishop of Worcester holds HANTONE [Hampton Lucy].⁸ There are 12 hides. There is land for 22 ploughs. Two are in the demesne, and 4 serfs. And there are 22 villeins and 9 bordars with a priest who have 24 ploughs. There (is) a mill worth (*de*) 6 shillings and 8 pence, and 15 furlongs of meadow in length and 1 furlong in breadth. In Warwic(k) 3 houses worth 16 pence (are appurtenant to this place). Wood(land) 1 league long and another broad. T.R.E. it was worth 4 pounds, and afterwards the same; now it is worth 20 pounds.

The same bishop holds and held STRADFORDE [Stratford on Avon].⁹ There are 14½ hides. There is land for 31 ploughs. In the demesne are 3 ploughs; and 21 villeins with a priest and 7 bordars have 28 ploughs. There is a mill worth (*de*) 10 shillings and a thousand eels, and meadow 5 furlongs long and 2 furlongs broad. T.R.E. and afterwards it was worth 100 shillings; now 25 pounds.

The same bishop holds ALVESTONE [Alveston].⁹ There are 15 hides. There is land for 24 ploughs. In the demesne are two; and (there are) 28 villeins and 15 bordars and 1 bondwoman; these have 22 ploughs. There are 3 mills worth (*de*) 40 shillings and 12 sticks (*stich'*) of eels and a thousand (eels). In Warwic(k) 4 houses worth 16 pence (belong to this manor). Meadow 6 furlongs long and 1 furlong broad. T.R.E. and afterwards it was worth 8 pounds; now 15 pounds.

Briestuin T.R.E. held in ALVESTON [Alveston] 7½ hides. Of this land Archbishop Eldred had soc and sac and tol and teim and churchscot (*ceriset*) and all other forfeitures except (*præter*) those four which the king has throughout his whole kingdom. This his¹⁰ sons Lewin, Edmar, and four others testify, but they do not know from whom he held

⁷ 'Wirecestre.'

⁸ Dugdale says this, which was known as Bishop's Hampton, was called, of later time, 'Hampton-on-Avon.'

⁹ Stratford, and Alveston, and Loxley are now all in Barlichway Hundred, which includes the Domesday Hundred of 'Patelau,' but it is uncertain whether they were in the latter Hundred.

[The *Registrum Prioratus . . . Wigorniensis* (ed. Camden Soc.) distinctly states (p. 80b) of Alveston: 'Hæc villa est de libertate hundredi Domini Episcopi de Pathelowa.'—J.H.R.]

¹⁰ i.e. Briestuin's.

THE HOLDERS OF LANDS

this land, whether from the church, or from Earl Leofric (*Leuric*) whom he served. They say however that they themselves held it from Earl Leofric and were able to betake themselves (*se vertere*) whither they would, with the land. The remaining $7\frac{1}{2}$ hides Britnod and Alwi held T.R.E. But the county knows not from whom they may have held. Bishop Wulfstan (*Wlstan*) however says that he made good his claim to (*deplacitasse*) this land before Queen Mathilda (*regina Mathilde*) in presence of four sherifffdoms (*vicecomitatum*), and thereof (*inde*) he has the writs of King William and the testimony of the county of Warwic(k).¹

The same bishop holds in LOCHESHAM [*? Loxley*] 1 hide.² There is land for 3 ploughs. In the demesne is one; and there are 4 villeins with 1 plough. T.R.E. and afterwards it was worth 20 shillings; now 25 shillings.

The same bishop holds SPELESBERIE [*Spilsbury*]³ and Urse of him. There are 10 hides. There is land for 16 ploughs. In the demesne are 4 ploughs and 5 serfs; and (there are) 25 villeins and 12 bordars with 12 ploughs. There is a mill worth (*de*) 50 pence, and 32 acres of meadow, and (of) pastures (*pascua*) 36 acres. (There is) wood(land) 1 league and 1 furlong long, and 7 furlongs broad. It was and is worth 10 pounds.

IN MERETON [MARTON] HUNDRET⁴

The same bishop holds in FLECHENHO [*Flecknoe*]⁵ 2 hides and half a virgate of land, and Lewin (holds it) of him. There is land for 2 ploughs. There are 2 villeins and

¹ The whole of this passage from Bricstain onward is written at the foot of a column and at the end of the list of the lands of the Bishop of Worcester. Reference-signs connect it with the entry relating to Alveston. (See, for it, the Introduction.)

² The fact that SPELESBERIE, referred to in the next entry, is in Oxfordshire inclined me to think that this may be Bloxham in that county. But I find no trace of any interest held by the bishop or church of Worcester in Bloxham, whereas in Loxley *temp.* Edw. I. the monks of Worcester had a rent. Moreover if we accept Dugdale's suggestion that Lochesham is part of Loxley we find that the total hidage of the place would be the frequently occurring five hides.

³ In Oxfordshire, though here entered under Warwickshire.

⁴ This heading is inserted in the margin.

⁵ Called 'Flekenho' by Dugdale. It is a hamlet in the parish of Wolfhamcote and Hundred of Knightlow. After the date of Domesday it appears, as we should expect, in Marton leet.

1 bordar with 1 plough. There are 6 acres of meadow. T.R.E. and afterwards it was worth 10 shillings; now 20 shillings.

III. THE LAND OF THE BISHOP OF BAYEUX

The Bishop of Bayeux holds of the king ARUE [Arrow],⁶ and Stephen (holds it) of him. Lewin held it and was a free man. There are $7\frac{1}{2}$ hides. There is land for 5 ploughs. In the demesne are two; and (there are) 8 villeins and 10 bordars with 4 ploughs. There is a mill worth (*de*) 6 shillings and 8 pence, and 30 acres of meadow. (There is) wood(land) 1 league . . . and 2 furlongs broad. T.R.E. it was worth 60 shillings, and afterwards 40 shillings; now 4 pounds.

IN TREMELAU HUNDRET

The same bishop holds in EDRICESTONE [Atherstone upon Stour] 4 hides, and Corbin (holds it) of him. Sberne held it and was a free man. There is land for 7 ploughs. In the demesne are 2; and 4 villeins, with a priest and 4 bordars and 4 serfs, have 3 ploughs. There is a mill worth (*de*) 10 shillings and 10 sticks of eels. There are 3 acres of meadow. T.R.E. as now, it was worth 4 pounds; when (the bishop) received it, 4 pounds.

IN FERNECUMBE HUNDRET

The same bishop holds in BEOSHELLE [Beausale]⁷ half a hide; Wadard (holds it) of him, and Gerold under him. Eduin the sheriff held it, and was a free man. There is land for 1 plough. (There are) 7 villeins and 4 bordars with 3 ploughs. There are 4 acres of meadow and 2 furlongs of wood(land). It was worth 5 shillings; now 20 shillings.

The same bishop holds in ULWARE [*? Little Wulford*]⁸ $1\frac{1}{2}$ hides, a d Wadard (holds it) of him, and Gerold under him. Alvrice held it and was a free man. There is land for 1 plough. (There are) 3 villeins with half a plough, and there are 6 acres of meadow. It was worth 10 shillings; now 20 shillings.

⁶ Appearing afterward in Barlichway Hundred, but not in Pathlow Liberty, it was doubtless in the Domesday Hundred of 'FerneCumbe.'

⁷ Formerly part of Hatton.

⁸ Probably this estate and the estate in ULWARDE recorded subsequently as held by Ralf under the Count of Meulan, were parts of one place, as each contained an odd half-hide, and each had been held by Alvrice T.R.E. Little Wulford is now in Kineton Hundred.

A HISTORY OF WARWICKSHIRE

The same bishop holds in BEDEFORD [Bidford]¹ 2½ virgates of land, and Robert d'Olgi² of him. Ernulf and Ernegrin held it and were free men. There is land for³ . There is 1 free man and 1 serf and 1 bordar with 1 plough; and 14 acres of meadow. Wood(land) 2 furlongs long and 1 broad. It was worth 12 pence; now 10 shillings.

The same bishop holds in BROME [Broom]⁴ 4½ hides, and Stephen (holds it) of him. Five free men held it T.R.E. There is land for 4 ploughs. In the demesne are 2; and there are 4 villeins and 10 bordars with 2 ploughs. There are 14 acres of meadow. T.R.E. it was worth 40 shillings, and afterwards 30 shillings; now 60 shillings.

V. THE LAND OF THE BISHOP OF COUTANCES

The Bishop of Coutances holds half a hide in FILUNGELEI [Fillongley],⁵ and Lewin (holds it) of him. There is land for 2 ploughs. In the demesne is 1, with 2 serfs; and 5 villeins with 2 bordars have 1 plough. There are 2 acres of meadow. (There is) wood (land) 2 furlongs long, and 1 furlong broad. It was worth 10 shillings; now 30 shillings. Alwin held it freely.

VI. THE LAND OF THE CHURCH OF COVENTRY

IN COLESHELLE [COLESHILL] HUNDRET

The abbey of Coventry (*Coventreu*) holds in FILUNGER [Fillongley]⁶ half a hide. There is land for 2 ploughs. There are 8 villeins and 6 bordars with 2 ploughs. There is a quarter of a league of woodland; when it bears (*oneratur*) it is worth 10 shillings. T.R.E. it was worth⁷ 10 shillings; now 30 shillings.

¹ Bidford is in Barlichway Hundred.

² 'Olgi' is interlined.

³ Here is a space left blank in the original.

⁴ Broom is a hamlet in Bidford, formerly divided into King's Broom and Burnell's Broom. This entry appears to relate to King's Broom.

⁵ Fillongley is in Hemlingford Hundred.

⁶ This would appear to have been the part which Gerard de Alspath held temp. Henry III. from the monks of Coventry by the name of Old Fillongley. Fillongley appears in Domesday Book as consisting of four half-hide estates, and it is difficult to piece them together.

⁷ Here is a space left blank, which should probably have contained the T.R.E. value, and the word 'post.'

IN MERETONE [MARTON] HUNDRET

The same (*ipsa*) church (holds) (G)⁸ RANEBERGE [Grandborough]. There are 8 hides and 1 virgate. There is land for 17 ploughs. In the demesne are 2; and (there are) 27 villeins and 11 bordars and 4 serfs with 14 ploughs. There is a mill worth (*de*) 16 pence, and 32 acres of meadow. T.R.E. it was worth 6 pounds, and afterwards 100 shillings; now 8 pounds.

The same (*ipsa*) church holds SURLAND⁹ []. There are 6 hides. There is land for 12 ploughs. In the demesne are 2, and 4 serfs; and (there are) 26 villeins and 9 bordars with 8 ploughs. There are 40 acres of meadow. T.R.E. it was worth 7 pounds, and afterwards 4 pounds; now 6 pounds.

The same (*ipsa*) church holds DERBINGERIE [Birdingbury].¹⁰ There are 2 hides. There is land for 4 ploughs. In the demesne are 2, and 3 serfs; and (there are) 4 villeins and 6 bordars with 1 plough. There are 6 acres of meadow. T.R.E. it was worth 40 shillings, and afterwards 20 shillings; now 35 shillings.

IN STANLEIE [STONELEIGH] HUNDRET

The same (*ipsa*) church holds BILVEIE [Binley].¹¹ There are 3 hides. There is land for 8 ploughs. In the demesne is 1 plough, and 4 serfs; and (there are) 10 villeins and 6 bordars with 5 ploughs. There are 8 acres of meadow. (There is) wood(land) half a league long, and 1 furlong broad. T.R.E., and now, worth 60 shillings.

This land Aldgid wife of Griffin held. The abbey bought it from O(sbern) son of Richard.

⁸ The MS. is injured here.

⁹ This should apparently be some place which would afterward be in the leet of Marton. I cannot however in the subsequent history of the abbey find mention of any of its estates with a name bearing the slightest resemblance to Surland. I hazard the suggestion that, as it was obviously a place of importance, it was that part of Coventry known afterward as 'Coventry *ex parte Prioris*.' If it was, I make the further suggestion that the reading should be 'Scirland,' i.e. Shire-land, part of Earl Leofric's lands.

¹⁰ The uncouth form of the name is doubtless a scribe's error. Birdingbury was one of the townships given by Earl Leofric to the abbey. It was afterwards in the leet of Marton, and therefore doubtless in the Domesday Hundred of 'Meretone.'

¹¹ This name in a subsequent entry (p. 323), and in other documents of later date, appears as Bilnei. The Domesday scribe doubtless mistook 'n' for 'u,' which he wrote as 'v.'

THE HOLDERS OF LANDS

The same (*ipsa*) church holds in CONDONE [Coundon]¹ 3 virgates of land. There is land for 2 ploughs. There are 4 villeins and 6 bordars with 2 ploughs and 1 serf (*servo*). (There is) wood(land) 3 furlongs and 30 perches long and 3 furlongs broad. It was and is worth 20 shillings.

The same (*ipsa*) church holds in COBINTONE [Cubbington] 2 hides. There is land for 4 ploughs. In the demesne is half a plough, and 2 serfs; and (there are) 5 villeins and 1 bordar with 1 plough. There are 8 acres of meadow. It was worth 20 shillings; now 30 shillings.

The same (*ipsa*) church holds in SUCHAM [Southam]² 4 hides. There is land for 12 ploughs. In the demesne are 2 ploughs and 7 serfs; and (there are) 20 villeins and 8 bordars with 8 ploughs. There are 2 mills worth (*de*) 4 shillings, and 10 acres of meadow. Wood(land) 1 league long and half a league broad; this wood(land) is in the king's hand. T.R.E., as now, it was worth 100 shillings; when received, 60 shillings.

³ To this church (of Coventry) Alwin the sheriff gave CLIPTONE [Clifton on Dunsmore] by permission (*concessu*) of King Edward and of his own sons, for (the benefit of) his soul, and with the county to testify (*testimonio comitatus*). Earl Aubrey wrongfully intruded on this (*hanc injuste invasit*) and took it from the church.

fo. 239

The same (*ipsa*) church holds in SOWA [Sowe]⁴ 3½ hides. There is land for 5 ploughs. In the demesne there is 1, and 4 serfs; and (there are) 10 villeins with 5 ploughs. There is a mill worth (*de*) 2 shillings. (There is) wood(land) half a league long and 4 furlongs broad. T.R.E. it was worth 40 shillings; now 60 shillings.

The same (*ipsa*) church holds in ULCHETONE

¹ Coundon and Cubbington, subsequently appearing in the leet of Stoneleigh, were doubtless in the Domesday Hundred of 'Stanlei.'

² Most probably Southam, the 'c' being a mis-script for 't.' Appearing afterward in Marton Leet, it was doubtless in the Domesday Hundred of 'Meretone.'

³ This is not one of the rubricated paragraphs describing an estate of the abbey, but is a note at the foot of a column. See the entry relating to 'Cliptone' under the head of Earl Aubrey's estates, where the statement is repeated in a side-note.

⁴ Sowe appears in a subsequent entry, as in the Hundred of 'Stanlei.'

[? Ufton] 4 hides. There is land for 8 ploughs. In the demesne are 2, and 7 serfs; and (there are) 12 villeins and 2 bordars with 6 ploughs. There is 1 acre of meadow. T.R.E. it was worth 4 pounds, and afterwards 40 shillings; now 100 shillings.

The same (*ipsa*) church holds ICETONE [Bishop's Itchington]. There are 5 hides. There is land for 16 ploughs. In the demesne are 2, and 6 serfs; and (there are) 30 villeins and 7 bordars with 13 ploughs. There are 50 acres of meadow. T.R.E. it was worth 10 pounds, and afterwards 3 pounds; now 12 pounds.

The same (*ipsa*) church holds in EDBURBERIE [Harbury]⁵ 1 hide and 1 virgate of land. There is land for 1 plough. It has been (laid) waste by (*vasta per*) the king's army. There are 2 acres of meadow. It was worth 10 shillings; now 2 shillings.

IN HONESBERIE HUNDRET

The same (*ipsa*) church holds HERDEWICHE [Prior's Hardwick].⁶ There are 15 hides. There is land for 16 ploughs. In the demesne are 2, and 4 serfs; and (there are) 43 villeins and 2 bordars with 13 ploughs. There are 40 acres of meadow. T.R.E. it was worth 9 pounds, and afterwards 4 pounds; now 10 pounds.

IN FEXHOLE HUNDRET

The same (*ipsa*) church holds HUNITONE [Honington]. There are 5 hides. There is land for 16 ploughs. In the demesne are 3 ploughs; and (there are) 36 villeins and 13 bordars and 4 serfs with 10 ploughs. There are 4 mills worth (*de*) 54 shillings and 4 pence, and 40 acres of meadow. T.R.E. it was worth 10 pounds, and afterwards 7 pounds; now 10 pounds.

IN TREMELAU HUNDRET

The same (*ipsa*) church holds CEDELESHUNTE [Chadshunt]. There are 5 hides. There is land for 16 ploughs. In the demesne are 2, and 6 serfs; and (there are) 18 villeins and 12 bordars with 8 ploughs. There are 12 acres of meadow. T.R.E. it was worth 6 pounds, and afterwards 3 pounds; now 7 pounds.

⁵ This appears in Dugdale and on all the early county maps as 'Herberbury.'

⁶ Prior's Hardwick, now only 1,600 acres in extent, doubtless included Prior's Marston, which is contiguous and was formerly parochially dependent on it, and contains 3,600 acres. Even so the assessment is severe.

A HISTORY OF WARWICKSHIRE

The same (*ipsa*) church holds in CESTRETON¹ [Chesterton¹] 1½ hides. There is land for 4 ploughs. In the demesne are 2, and 3 serfs; and (there are) 5 villeins and 9 bordars with 2 ploughs. There are 10 acres of meadow. T.R.E. it was worth 40 shillings, and afterwards 20 shillings; now 50 shillings.

The same (*ipsa*) church holds WASMERTONE [Wasperton²]. There are 5 hides. There is land for 11 ploughs. In the demesne is 1, and 2 serfs; and (there are) 18 villeins and 1 bordar with 7 ploughs. There is a mill worth (*de*) 20 shillings and 4 loads of salt and 1000 eels. There are 30 acres of meadow. Wood(land) half a league long and 2 furlongs broad. T.R.E. it was worth 4 pounds, and afterwards 50 shillings; now 70 shillings.

IN FERNECUMBE HUNDRET

The same (*ipsa*) church holds NEWEHAM [?Newnham in Aston Cantlow³]. There are 5 hides. There is land for 14 ploughs. In the demesne are 2, and 4 serfs; and (there are) 15 villeins and 5 bordars with 8 ploughs. It was and is worth 6 pounds.

IN HONESBERIE HUNDRET

The same (*ipsa*) church holds in RADWEI [Radway] 3 hides; and Ermenfrith (holds them) of the abbot. There is land for 6 ploughs. In the demesne is 1, and 4 serfs; and 13 villeins and 6 bordars have 5½ ploughs. There are 16 acres of meadow. It was worth 20 shillings; now 50 shillings.

VII. THE LAND OF THE CHURCH OF ABINGDON⁴

IN MERETONE [MARTON] HUNDRET

The abbey of Abingdon⁴ (*Abendone*) holds in HILLE [Hill⁵] 2 hides which the abb(ot) bought (*emit*) of the fee of Turchill; and Warin holds (it) of the abbot. There is land

¹ Chesterton is shown by a subsequent entry to have been in 'Tremelau' Hundred.

² Wasperton is afterward found in Kineton Hundred, and may well have been in the Domesday Hundred of 'Tremelau.'

³ Apparently this identification must be correct, for 'Fernecombe' Hundred was swallowed up by Barlichway Hundred, and this is the only Newnham in Barlichway Hundred. Its subsequent history is that of an obscure hamlet in Aston Cantlow, whereas it appears here as an important place, equal in assessment and value to Aston.

⁴ Abingdon in Berkshire.

⁵ Near Leamington Hastings. For particulars of this grant see *Historia Monasterii de Abingdon* (Rolls Series), ii. 8, 284, and Introduction, p. 276, above.

for 3 ploughs. In the demesne there are now 2 ploughs; and 5 villeins with 7 bordars have 1 plough. There are 12 acres of meadow. It was worth 30 shillings; now 40 shillings.

VIII. THE LAND OF THE CHURCH OF BURTON

IN COLESHELLE [COLESHILL] HUNDRET

The abbey of BURTON⁶ (*Bertone*) holds in ALDULVESTREU [Austrey] 2½ hides. There is land for 4 ploughs. In the demesne is 1, and (there are) 6 villeins and 4 bordars with 2 ploughs. T.R.E. it was worth 40 shillings, and afterwards 10 shillings; now 30 shillings. Earl Leofric (*Leuric*) gave this land to the same church.

IX. THE LAND OF THE CHURCH OF MALMESBURY

The abbey of Malmesbury (*Malmesberie*) holds in NIWEBOLD [Newbold (Comyn⁷)] 3 hides. There is land for 6 ploughs. There are now in the demesne 2 ploughs and 4 serfs; and 8 villeins with 3 bordars have 3 ploughs. There is a mill worth (*de*) 8 shillings, and 16 acres of meadow. It was worth 30 shillings; now 50 shillings. Ulwin a monk held it, and himself gave it to the church when he became a monk.

X. THE LAND OF THE CHURCH OF WINCHCOMBE⁸

The abbey of Winchcombe (*Wincelcumbe*) holds 6 hides in ALNE [Great Alne⁹]. There is land for 6 ploughs. In the demesne is 1 plough, and 3 serfs; and 11 villeins with 4 bordars have 5 ploughs. There is a mill worth (*de*) 5 shillings. (There is) wood(land) half a league long and 4 furlongs broad. It was worth 3 pounds; now 4 pounds.

XI. THE LAND OF THE CHURCH OF EVESHAM

IN FERNECUMBE HUNDRET

The abbey of Evesham holds in WITELAVESFORD [Wixford] 5 hides. There is

⁶ Burton-on-Trent.

⁷ The seat of the Willes family close to Leamington. The identification is clear from the subsequent history of the place. Being afterward in Stoneleigh leet, it was doubtless in the Domesday Hundred of 'Stanlei.'

⁸ Winchcombe in Gloucestershire.

⁹ Doubtless in 'Fernecombe' Hundred, being afterward in Barlichway Hundred, but not in Pathlow liberty.

THE HOLDERS OF LANDS

land for 6 ploughs. In the demesne are 2, and 3 serfs, and 2 bondwomen; and (there are) 4 villeins and 6 bordars with 2 ploughs. There is a mill worth (*de*) 10 shillings and 20 sticks of eels. There are 24 acres of meadow. (There is) wood(land) 1 furlong long and half (a furlong) broad. T.R.E. it was worth 40 shillings, and afterwards 30; now 50 shillings. This land Wigot held T.R.E.

The same (*ipsa*) church holds in SANDBURNE [Sambourn¹] 3 hides. There is land for 4 ploughs. In the demesne is 1, and 2 serfs; and (there are) 2 villeins and 4 bordars with 3 ploughs. (There is) wood(land) 1 league long and half a league broad. It was worth 20 shillings; now 30 shillings.

The same (*ipsa*) church holds in SALFORD [Abbot's Salford²] 2 hides. There is land for 6 ploughs. In the demesne is 1, and 2 serfs; and (there are) 9 villeins and 5 bordars with 7 ploughs. There is a mill worth (*de*) 10 shillings and 20 sticks of eels; and meadow 6½ furlongs long and 1½ furlongs broad. It was worth 40 shillings; now 60 shillings.

The same (*ipsa*) church holds in CHENEVERTONE [Kinwarton] 3 hides, and Rannulf (holds them) of the abbot. There is land for 5 ploughs. In the demesne is 1, and 3 serfs; and (there are) 3 villeins and 2 bordars with 1 plough. There is a mill worth (*de*) 3 shillings; meadow 1 furlong long and 12 perches broad. It was worth 40 shillings, and afterwards 5 shillings; now 20 shillings.

The same (*ipsa*) church holds in WILELEI [Weethley] 3 hides. There is land for 4 ploughs. They are there (*Ibi sunt*).³

XII. THE LAND OF EARL ROGER ⁴

IN STANLEI [STONELEIGH] HUNDRET

Earl Roger holds of the king LAMINTONE [Leamington Prior's]. There are 2 hides. There is land for 8 ploughs. In the demesne are 2, and 3 serfs; and 5 villeins with a priest and 3 bordars have 4 ploughs. There

are 2 mills worth (*de*) 24 shillings, and 26 acres of meadow. It was worth 50 shillings, and afterwards 25 shillings; now 4 pounds. Olwin⁵ held it freely T.R.E.

The same earl holds in FRANCHETONE [Frankton⁶] 4 hides less 1 virgate. There is land for 6 ploughs. In the demesne are 3 ploughs; and (there are) 8 villeins and 6 bordars with 3½ ploughs. There are 15 acres of meadow. It was and is worth 60 shillings. Ulwin⁵ held it freely in the time of King Edward.

Of the fee of Earl Roger Rainald⁷ holds 5 hides in STRATONE [Stretton on Dunsmore⁸]. There is land for 7 ploughs. In the demesne are 3 ploughs and 8 serfs; and (there are) 20 villeins and 6 bordars with 14 ploughs. There are 5 acres of meadow. (There is) wood(land) 3 furlongs long and 1 broad. It was worth 3 pounds, and afterwards 100 shillings; now 6 pounds.

The same R(ainald)⁷ holds of the earl in ULVRICETONE [Wolston⁶] 5 hides. There is land for 12 ploughs. In the demesne are 4, and 6 serfs; and 18 villeins with a priest and 19 bordars have 12 ploughs. There is a mill worth (*de*) 6 shillings and 4 pence; and 5 acres of meadow. It was worth 60 shillings, and afterwards 20 shillings; now 100 shillings. Ailmund held these 2 manors.

The same (Rainald)⁷ holds of the earl 5 hides in LEILEFORDE [Church Lawford⁶]. There is land for 7 ploughs. In the demesne is 1, with 2 serfs; and (there are) 9 villeins and 17 bordars and 2 Frenchmen (*Francig'*) with 6 ploughs. There is a mill worth (*de*) 10 shillings and 6 pence, and 11 acres of meadow. It was worth 40 shillings, and afterwards 10 shillings; now 50 shillings. Chetelbert held it.

William holds of the earl in BELTONE [Bilton] 5 hides less 1 virgate. There is land for 11 ploughs. In the demesne are 2;

⁵ These were probably the same.

¹ Formerly part of Coughton. Doubtless in 'Fernecumbe' Hundred, as was Coughton [*Coc-tune*], both of them being subsequently in Barlichway Hundred, but not in Pathlow liberty.

² This and the two following places afterwards appear in Barlichway Hundred, and, not being in Pathlow liberty, were doubtless in the Domesday Hundred of 'Fernecumbe.'

³ I take this to be an incomplete entry, the particulars not being filled in.

⁴ Roger de Montgomery, Earl of Shrewsbury.

⁶ Apparently none of these five places (Frankton, Stretton on Dunsmore, Wolston, Church Lawford and Bilton) was in the Domesday Hundred of 'Stanlei,' for all of them, except Stretton, appear subsequently in the leet of Marton and were therefore probably in 'Meretone' Hundred at the time of Domesday. They are all now in Knightlow Hundred, which has swallowed up 'Meretone' and 'Stanlei' Hundreds. With regard however to Wolston, see note 1 on p. 308.

⁷ This was Rainald de Bailleul.

A HISTORY OF WARWICKSHIRE

and 23 villeins with a priest and 9 bordars have 8½ ploughs. There are 8 acres of meadow. It was worth 4 pounds, and afterwards 10 shillings; now 3 pounds. Ulwin held it.

IN STANLEI [STONELEIGH] HUNDRET

Rainald holds of the earl in ULUESTONE¹ [] 1 virgate of land. There is land for half a plough. There is 1 villein. It is worth 5 shillings. Elmund held it.

Outi holds of the earl 3 hides in QUATONE [Quat (in Shropshire)].² There is land for 12 ploughs. In the demesne are 4, and 5 serfs; and (there are) 19 villeins and 14 bordars with 10 ploughs. There is 1 acre of meadow. (There is) wood(land) 2 leagues long and 1 broad; and a mill worth (*de*) 2 shillings. It was worth 6 pounds; now 100 shillings. The same Outi held it freely.

Walter holds of the earl 1 hide in RAMESLEGE [Romsley (in Shropshire)].² There is land for 7 ploughs. In the demesne is 1, and 2 serfs; and (there are) 7 villeins and 7 bordars with 3 ploughs. (There is) wood(land) 1 league long and half a league broad. It was worth 30 shillings; now 40 shillings. Achi held it freely.

Ralph holds of the earl 5 hides in RIGGE [Rudge (in Shropshire)].² There is land for 7 ploughs. In the demesne is 1, with 1 serf; and (there are) 3 villeins and 4 bordars with 2 ploughs. It was worth 60 shillings; now 40 shillings. Edric held it freely of Earl Leofric (*Leurico*).

The same Ralph holds of the earl in SCIPLEI [Shipley (in Shropshire)]² 1 hide. There

¹ I do not like to follow Dugdale in identifying this place with Wolston (Ulvricetone) mentioned three entries further back, because (1) Wolston must, as mentioned in the previous note, almost certainly have been in 'Meretone' Hundred; (2) Uluestone and Ulvricetone having both been held by Ailmund or Elmund T.R.E. and by Rainald as Domesday tenant under Earl Roger, would, had they been in one place, have been lumped together as one estate, and would not have required two separate entries. I think it is some obscure little estate in the Leet or Hundred of 'Stanlei,' long ago merged in some more important place.

² Eyton (*Domesday Studies: An Analysis and Digest of the Staffordshire Survey*, p. 2) considers that at the time of Domesday these four Shropshire manors of Earl Roger were probably, as were three others certainly, in Staffordshire. Fifty years later they were undoubtedly in Shropshire,

is land for 3 ploughs. There are 2 villeins; and there is 1 furlong of oaks in length and breadth. It is worth 5 shillings. Alsi held it freely T.R.E.

XIII. THE LAND OF EARL HUGH³

IN TREMELAU HUNDRET

Earl Hugh holds 1 hide and 3 virgates of land in PILARDETUNE [Pillerton Priors],⁴ and Waleran of him. There is land for 2 ploughs. In the demesne is 1 with 1 serf; and (there are) 2 villeins and 2 bordars with 1 plough. It was worth 20 shillings; now 30 shillings. Hugh the chamberlain (*camerarius*)⁵ held it freely.

fo. 239b

XIII. THE LAND OF EARL AUBREY⁶

IN COLESHELLE [COLESHILL] HUNDRET

Earl Aubrey (*Albericus*) held of the king ETONE [Nuneaton]. Harding held it T.R.E. There is land for 26 ploughs. In the demesne are 3, and 3 serfs; and (there are) 44 villeins and 6 coliberts and 10 bordars with 16 ploughs. There is a mill worth (*de*) 32 pence, and 20 acres of meadow. (There is) wood(land) 2 leagues long and 1½ leagues broad. T.R.E. it was worth 8 pounds, and afterwards 3 pounds; now 100 shillings.

IN MERETONE [MARTON] HUNDRET

The same (*ipse*) earl held CLIPTONE [Clifton upon Dunsmore]. Alwin the sheriff held it T.R.E. and he with his land was free. There are 5 hides. There is land for 16 ploughs. In the demesne are 2 ploughs; and 12 villeins with a priest and 20 bordars have 7 ploughs. There are 2 mills worth (*de*) 11 shillings, and 8 acres of meadow. T.R.E. and afterwards, it was worth 40 shillings; now 4 pounds.

This land Alwin gave to the church of Coventry for (the repose of) his soul (*pro anima sua*) T.R.E. Earl Aubrey took it away.⁷

where they now remain, being all in the neighbourhood of Bridgenorth. Romsley and Shipley, as 'Hremesleage' and 'Sciplea,' occur together in the will of Wulfric Spott, among the estates bequeathed to Burton Abbey.

³ Of Chester.

⁴ Otherwise Over Pillerton or Little Pillerton.

⁵ He was chamberlain to Edward the Confessor.

⁶ See Introduction, p. 276.

⁷ This paragraph is written in the margin by the side of the description of 'Cliptone,' to which it relates (see Introduction, p. 296).

THE HOLDERS OF LANDS

IN BOMELAU HUNDRET

The same earl held SMITHAM [Smite].¹ Harding held it T.R.E. and was a free man. There are 6 hides. There is land for 25 ploughs. In the demesne are 2 ploughs; and (there are) 22 villeins and 23 bordars with 12 ploughs. There are 2 free men. (There is) wood(land) half a league long and as much in breadth; and there are 50 acres of meadow. It was worth 40 shillings; now 6 pounds.

The same earl held in BRANCOTE [Bramcote]² 1½ hides. There is land for 3 ploughs. Salo held it, and was a free man. There is 1 villein. It was worth 5 shillings.

The same earl held in WAURE [? Church Over]³ 2½ hides. There is land for 3

¹ Upper and Lower Smite were two villages almost forgotten in Dugdale's time, and forming part of the parish now known as Combe Fields.

On Morden's map of Warwickshire (cir. 1695) a Snite Super and a Snite Infer are shown. On the Ordnance Survey maps (cir. 1831) a 'Smeeton Lane or Smiteton Lane' is shown between Brinklow and Stretton under Fosse; on the more recent maps this is not shown, but a Smite Brook is noted.—B.W.

² I have little doubt of this identification, for Salo was the Domesday tenant of the neighbouring Bulkington under the Count of Meulan. This Bramcote probably belonged to 'Bomelau Hundred.'

³ There are three 'Overs' in Warwickshire, Churchover, Brownsover and Cesters Over; the last being now only a farm in Monks Kirby. These are represented in Domesday by the following: (1) Waure (in), 2½ hides, held by Geoffrey de Wirce for the king as above; (2) Waura (in), half a hide held by Turchil; (3) Wara (in), 7 hides held by Robert de Statford in demesne; (4) Gaura (in), 2 hides held by Geoffrey de Wirce and under him by Bruno; (5) Wara (in), 5 hides held by Geoffrey de Wirce and under him by Robert (? de Statford). Of these, 4 is obviously Brownsover, named from the under-tenant Bruno. Neglecting Dugdale's identifications, which seem little more than guesses, and taking no notice of Turchil's estate, I suggest that 1, 2 and 3, making up a 10-hide place, were Churchover excluding Cesters Over, and that 5, being a 5-hide place, was Cesters Over, which may have been considered as a separate place or as a part of Churchover. Judging by the present acreage of Churchover (1,640 acres) and Brownsover (912 acres), the assessments of 15 and 5 hides seem severe. (3) is rubricated as in 'Bomelau' Hundred: it therefore in my opinion follows that this 'Waure' of Earl Aubrey is in that Hundred.

[In addition to the above five entries we have (6) Waure, (in), 1 hide, held of William Fitz Ansculf by William Fitz Mauer, which is entered under Northants (see p. 344).—J.H.R.]

ploughs. Alric held it, and he with his land was free. There are 1 villein and 2 bordars. It was worth 5 shillings; now 4 pence more.

IN HONESBERIE HUNDRET

The same earl held in RODEWEI [Radway] 2 hides. There is land for 3 ploughs. Harding held it, and he with it was free. There are 4 villeins and 1 bordar with 1 plough. There are 8 acres of meadow. It was and is worth 20 shillings.

These lands of Earl Aubrey are in the king's hand. Geoffrey de Wirce has charge of them (*eas custod[it]*).

XV. THE LAND OF COUNTESS GODEVA

IN COLESHELLE [COLESHILL] HUNDRET

Countess Godeva held T.R.E. AILEPEDE [Alspath].⁴ There are 4 hides. There is land for 8 ploughs. There are 8 villeins and 1 bordar with 2½ ploughs. The wood(land) is (*babet*) 1½ leagues long and 1 league broad. T.R.E. it was worth 40 shillings, and afterwards and now 30 shillings.

The same (*ipsa*) countess held in ADERESTONE [Atherstone juxta Merevale] 3 hides. There is land for 5 ploughs. There are 11 villeins and 2 bordars and 1 serf with 4 ploughs. There are 6 acres of meadow. Wood(land) 2 leagues long and 2 leagues broad. It was worth 40 shillings; now 60 shillings.

The same countess held in ARDRESHILLE and HANSLEI [Hartshill and Ansley] 2 hides. There is land for 7 ploughs. There are 13 villeins with 5 ploughs. There are 6 acres of meadow. It was worth 4 pounds; now 100 shillings.

The same countess held CHINESBERIE [Kingsbury]. There are 6 hides. There is land for 7 ploughs. In the demesne are 2 ploughs and 1 serf; and (there are) 33 villeins and 3 bordars with 2 priests, having 16 ploughs. There is a mill worth (*de*) 9 shillings and 4 pence, and 12 acres of meadow. Wood(land) 1 league long and as much in breadth. T.R.E. it was worth 6 pounds, afterwards 7 pounds; now 13 pounds of weighed money.

IN BOMELAU HUNDRET

The same countess held ANESTIE and FOCHESELLE [Ansty and Foleshill]. There

⁴ Now Meriden. (There is an Alspath Hall in the parish of Meriden.—B.W.)

A HISTORY OF WARWICKSHIRE

are 9 hides. There is land for 7 ploughs. In the demesne are 3, and 2 serfs; and (there are) 30 villeins and 6 bordars with 11 ploughs. T.R.E. and afterwards it was worth 10 pounds; now 12 pounds.

The same countess held COVENTREU [Coventry]. There are 5 hides. There is land for 20 ploughs. In the demesne are 3 ploughs and 7 serfs; and (there are) 50 villeins and 12 bordars with 20 ploughs. There is a mill worth (*de*) 3 shillings. Wood(land) 2 leagues long and as much in breadth. T.R.E. and afterwards it was worth 12 pounds. Now 11 pounds of weighed money.

These lands of Countess Godeva, Nicholas farms (*tenet ad firmam*) from the king.

XVI. THE LAND OF THE COUNT OF MEULAN

IN STANLEI [STONELEIGH] HUNDRET

The Count of Meulan (*de Mellend*) holds of the king MUITONE [Myton].¹ There are 2 hides. There is land for 8 ploughs. Earl Algar held it. In the demesne is 1 (plough) and 2 serfs; and (there are) 6 villeins and 11 bordars with 3 ploughs. There are 2 mills worth (*de*) 70 shillings, and 12 acres of meadow. T.R.E. it was worth 3 pounds, and afterwards 40 shillings; now 6 pounds.

The same count holds in MALVERTONE [Milverton]² 2 hides less 1 virgate. Lewin held it and was a free man. There is land for 8 ploughs. In the demesne is 1, and 2 serfs; and (there are) 1 villein and 5 bordars with 1 plough. There is a mill worth (*de*) 50 shillings and 30 acres of meadow. It was worth 40 shillings; now 100 shillings.

The same count holds WIDECOTE [Woodcote].³ There is 1 hide. There is land for

¹ Myton is a suburb of Warwick, and, like Warwick, is now in Kineton Hundred, whereas any place in 'Stanlei' Hundred would normally be found afterward in Stoneleigh Leet and the Hundred of Knightlow. The explanation seems to be that Myton is absolutely on the boundary of the two hundreds. There are two subsequent entries relating to Myton; one speaking of 2 hides, the other of 1 hide. These, with the 2 hides of this entry, make it a 5-hide place.

² Milverton is found afterward in the Leet of Stoneleigh, and was no doubt in the Domesday Hundred of 'Stanlei.'

³ Woodcote, now a small estate in Leek Wootton, is subsequently to Domesday found to be divided into Upper and Lower Woodcote. There seems no ground for deciding whether the two

2 ploughs. Cantuin and Turbern held it and were free. There are 4 villeins and 5 bordars with 1 plough. T.R.E. it was worth 10 shillings; now 30 shillings.

The same count holds in RINCELE [Rinsell]⁴ 1 hide. It is waste. There is wood(land) half a league long and 2 furlongs broad. When it bears (*oneratur*) it is worth 10 shillings.

The same count holds in DERCETO [Avon Dassett]⁵ 10 hides. Three thegns held it and were free. There is land for 12 ploughs. In the demesne are 3 ploughs and 10 serfs; and 12 villeins with a priest and 5 bordars have 7 ploughs. There are 50 acres of meadow. T.R.E. it was worth 10 pounds, and afterwards 40 shillings; now 8 pounds.

The same count holds in WARMINTONE [Warmington]⁶ 13 hides. Azor held it and was a free man. There is land for 14 ploughs. In the demesne are 4, and 12 serfs; and (there are) 36 villeins and 8 bordars with 14 ploughs. There are 69 acres of meadow. T.R.E. it was worth 10 pounds; now the same.

The same count holds in ERBURBERIE [Harbury]⁷ 4½ hides. Lewin and Alric held it and could sell it, but could not withdraw themselves (*discedere*) with their land. There is land for 10 ploughs. In the demesne is 1 plough with 1 serf; and (there

divisions are connected with the two entries in Domesday Book. Woodcote, appearing afterwards in the Leet of Stoneleigh, was doubtless in the Domesday Hundred of 'Stanlei.'

⁴ This was doubtless the wood of Rinsell mentioned by Dugdale (p. 309) in conjunction with 'Wegenoke' (Wedgnock), the latter place being found afterwards in Knightlow Hundred and lying near to Leek Wootton; and Woodcote was probably like them in 'Stanlei' Hundred; and so, presumably, was 'Rincele.'

⁵ This identification is proved by *Testa de Nevill*, p. 98, which shows that the Earl of Warwick's fee was in 'Avendercet.'—J.H.R.

⁶ In Kineton Hundred.

⁷ This appears afterward in Stoneleigh Leet and was doubtless in the Domesday Hundred of 'Stanlei.' Including the previous mention of it as 'Edburberie' it occurs five times in Domesday Book, the hidations being: 1 hide 1 virgate, 4 hides 2 virgates, 4 hides, 2 hides, 3 virgates; total, 12½ hides. It still appears in modern directories as '*alias* Herberbury.'

(On Speed's map of Warwickshire dated 1610, and on the maps of Saxton, Morden and Blome, this place appears as Harberbury.—B.W.)

THE HOLDERS OF LANDS

are) 9 villeins and 6 bordars with 4 ploughs. T.R.E. it was worth 100 shillings, afterwards 60 shillings; now 100 shillings.

IN TREMESLAU HUNDRET

The same count holds MORTONE [Moreton-Morrell].¹ Derman held it, and a free man held it (*et liber homo tenuit*).² There are 5 hides. There is land for 8 ploughs. In the demesne are 4 ploughs and 18 serfs; and 20 villeins with a priest and 1 bordar have 7 ploughs. There are 40 acres of meadow. T.R.E. and afterwards it was worth 6 pounds; now 11 pounds.

The same count holds WALTONE [Walton].³ Saxi held it and was a free man. There are 5 hides. There is land for 6 ploughs. In the demesne are 3, and 6 serfs; and (there are) 9 villeins and 1 bordar with 4 ploughs. There is a mill worth (*de*) 6 shillings. T.R.E. and afterwards it was worth 3 pounds; now 7 pounds.

The same count holds WALTONE [Walton].³ Gida and Saied held it and were free. There are 10 hides. There is land for 10 ploughs. In the demesne are 2 ploughs and 9 serfs; and (there are) 32 villeins and 3 bordars with 10 ploughs. There are 2 mills worth (*de*) 12 shillings, and 8 acres of meadow. Wood(land) 4 furlongs long and 2 broad. T.R.E. it was worth 100 shillings and afterwards 4 pounds; now 10 pounds.

The same count holds CONTONE [Compton Verney].⁴ Ulward and Cantuin held it

¹ There are eight entries relating to various Mortons in the Domesday of Warwickshire, and to identify them is difficult. This however is clear, for Moreton Morrell is the only Moreton in Kineton Hundred, and 'Tremelau' Hundred was subsequently absorbed by Kineton Hundred.

² The text seems to be corrupt here.

³ Walton in the Subsidy Roll of Edw. III. was in Kineton Hundred, agreeing with Dugdale. It was, after the time of Domesday, divided into Walton D'Eivile and Walton Mauduit, and the former stands first in the Subsidy Roll. Not improbably the same order was maintained in Domesday Book. The assessment of 15 hides seems very severe, if the acreage was then, as now, only 2,100 acres.

⁴ Disregarding Little Compton, a small village near Long Compton, which, in 1842, was taken from Gloucestershire into Warwickshire, there are in the latter county the following Comptons: Long Compton, Fenny Compton, Compton Verney, Compton Scorpion, Compton Wynyates. All these five occur in the Subsidy Roll of 1 Edward III., the first being there called Cump-ton Magna, the second Fennicumpton, the third

and were free. There are 7 hides. There is land for 8 ploughs. In the demesne are 3, and 7 serfs; and (there are) 14 villeins with a priest and 3 bordars with 5 ploughs.

Cumpton Murdak, the fourth Cumptone Scorfen, and the fifth Cumptone Wyzate. All of them have been continuously in Kineton Hundred.

Turning now to Domesday Book, we find that the various Comptons are there recorded in the following eight entries:—

(1) Contone, 7 hides; held by the Count of Meulan.

(2) Contone (in), 4 hides 3 virgates; held by the Count of Meulan.

(3) Contone (in), 2 hides; held by Turchil.
(4) (in eadem villa), 3 hides, 1 virgate; held by Turchil.

(5) Contone (in), 3 hides; held by Turchil (his under-tenant Alwin).

(6) Contone parva (in), 5 hides; held by Robert de Statford.

(7) Contone (in), 1 hide; held by Robert de Statford (his under-tenant Alwin).

(8) Cuntone, 30 hides; held by Geoffrey de Manneville.

Of these eight, No. 1 is almost certainly (part of) Compton Murdak (now Compton Verney), because that place is close to Morton Morrell and the two Waltons which immediately precede it in Domesday Book, all four of them being probably in 'Tremelau' Hundred. This identification agrees with Dugdale, and is strengthened by the fact that Compton Murdak (now Compton Verney) is an ancient parish, and the Domesday entry mentions a priest as one of the under-tenants. No. 6 is, it may be affirmed with assurance, Compton Scorfen, which is close to Ditchford, Willington, and Wolford, and is now only a hamlet of Ilmington. It is found, after Domesday, included in the Barony of Stafford. No. 8 I take to be Long Compton, called in the Subsidy Roll of 1 Edward III. 'Great Compton.' This is clear, not merely because of its evident size and importance, but because the history of its tenure under the Mandevilles is well known, and is given in detail by Dugdale.

There remain, then, Nos. 2, 3, 4, 5 and 7. With these, Dugdale does not help us, and his identifications may be disregarded, for he identifies both 3 and 4 twice over, once with Fenny Compton, and once with Compton Wyniates, and gives no convincing reasons when dealing with the other three. If, however, we bear in mind Mr. Round's principle of the 5-hide basis of assessment, we shall, I think, be able to arrive at a satisfactory conclusion.

No. 2, then, is probably (part of) Fenny Compton; and for the following reasons: It follows next to Arlescote and close after Wormleighton and Warmington, all of which are in the same corner of Kineton Hundred, with Fenny Compton, Wormleighton being contiguous and also held under the Count of Meulan by Gilbert. Fenny Compton is also an ancient parish, and the

A HISTORY OF WARWICKSHIRE

There are 10 acres of meadow. T.R.E. it was worth 100 shillings, afterwards the same; now 6 pounds.

The same count holds CERLECOTE [Char-

Domesday entry mentions a priest. Wormleighton certainly was in 'Honesberie' Hundred, and so, no doubt, were Warmington, Arlescote and Fenny Compton.

Nos. 3 and 4 are, also, if we judge by juxtaposition, to be identified with Fenny Compton, for they occur in Domesday Book between Ratley, which is rubricated as in 'Honesberie' Hundred, and Wormleighton, which, as we have already seen, is in that Hundred. (The occurrence of 'Moitone,' which intervenes, may, I think, be disregarded.) Having travelled independently in our argument thus far, we now turn our attention to the hidage, and finding that the 4 hides 3 virgates of No. 2, the 2 hides of No. 3 and the 3 hides 1 virgate of No. 4 make up exactly 10 hides, we may conclude that our identifications are justified.

Coming now to No. 5, we find it following two places, Fulready and Eatington rubricated as in 'Tremelau' Hundred, and coming before 'Cestretone' (Chesterton), which we know to have been in the same Hundred. I therefore identify this with Compton Murdak (now Compton Verney), which, in treating of No. 1, we found good reason to conclude was in 'Tremelau' Hundred. Again, putting our identification to the hidage test, we find that the 7 hides of 1 and the 3 hides of this No. 5 make up a 10-hide place.

There remains only No. 7 with its 1 hide. This, by the process of exhaustion, I might affirm to be Compton Wyniates (called in Dugdale's map 'Compton-in-the-Hole'), always the smallest and least important of the Comptons, except, perhaps, Compton Scorsfen. The difficulty, however, is that Compton Wyniates does not afterward appear in the Barony of Stafford, but is found to be held by the service of half a knight's fee under Turchil's descendants, the Ardens, who held it under the Earls of Warwick (*Testa*, p. 98). We should therefore have expected to find it identical with one of the first five, and more especially with one of Nos. 3, 4 and 5. The explanation I suggest is, that Alwin, who held No. 7 under Robert de Statford, was identical with Alwin who held No. 5 under Turchil. It is always inconvenient to serve two masters, and it is not unlikely that one of the Staffords passed this estate over to be held under Turchil or the Earls of Warwick. This would be all the more probable if Alwin were, as his name may indicate, a blood-relation of Turchil, the latter being son of Alwin the sheriff.

Before bringing this long note to a close, I may say that the modern acreage and rateable value of the respective Comptons, and their assessments under Edward III., do, on the whole, support my identifications. But, on the other hand, Mr. Round does not think this explanation of how Compton Wyniates came to be held of the Earls of Warwick satisfactory.

lecote].¹ Saxi held it and was a free man. There are 3 hides. There is land for 5 ploughs. In the demesne are 2, and 7 serfs; and (there are) 14 villeins and 2 bordars with 5 ploughs. There are 2 mills worth (*de*) 21 shillings, and 12 acres of meadow. T.R.E. and afterwards it was worth 50 shillings; now 4 pounds.

IN FERNECUMBE HUNDRET

The same count holds SCIREBURNE [Sherborne]. Edric and Leueget held it and were free. There are 2½ hides. There is land for 6 ploughs. In the demesne are 1½ ploughs and 4 serfs; and 9 villeins with a priest and 2 bordars have 2 ploughs. There are 16 acres of meadow. T.R.E. it was worth 60 shillings, and afterwards 40 shillings; now 50 shillings.

The same count holds FULEBROC [Fulbrook].² Alfied held it and was free (*libera*). There are 2½ hides. There is land for 8 ploughs. In the demesne are 1½ ploughs, and 4 serfs; and (there are) 10 villeins and 3 bordars with 5 ploughs. There is a mill worth (*de*) 12 shillings, and 8 acres of meadow. T.R.E. it was worth 60 shillings, and afterwards 40 shillings; now 60 shillings.

fo. 240

The same count holds SNITEFELD [Snitterfield].³ Sexi held it and was a free man. There are 4 hides. There is land for 14 ploughs. In the demesne are 2, and 10 serfs; and 11 villeins with a priest and 4 bordars have 6 ploughs. There are 12 acres of meadow. T.R.E. and afterwards it was worth 4 pounds; now 100 shillings.

The same count holds CLAVENDONE [Claverdon].³ Boui held it, and was a free man. There are 3 hides. There is land for 5 ploughs. In the demesne is 1; and 12 villeins with a priest and 14 bordars have 5 ploughs. There are 3 serfs, and 16 acres of meadow. And 1 league of wood(land) when it bears (*cum onerat*), is worth 10 shillings. It (Claverdon) was worth 40 shillings; now 4 pounds.

¹ Charlecote is in the modern Hundred of Kington, and being in the same corner of it as the four preceding places, may well have been, as they probably all were, in 'Tremelau' Hundred.

² Fulbrook is a small place within a mile of Sherborne and was doubtless in the same Hundred.

³ Snitterfield, Claverdon, Preston and Kington, being afterward in Barlichway Hundred, but not in the Liberty of Pathlow, were doubtless in the Domesday Hundred of 'FerneCumbe.'

THE HOLDERS OF LANDS

The same count holds DONNELIE [*Donnele* in Hatton].¹ Alwold held it and was a free man. There is 1 hide. There is land for 2 ploughs. There are 6 villeins and 2 bordars with 2 ploughs. There is a hay (*baia*) which is (*habens*) half a league long and as much broad. It was worth 20 shillings; now 30 shillings.

The same count holds PRESTETONE [Preston Bagot]. Turbern held it and was a free man. There are 5 hides. There is land for 3 ploughs. In the demesne is 1 plough and 2 serfs; and 7 bordars with 1 Frenchman (*francigen*) have 1 plough. There is a mill worth (*de*) 16 shillings. Wood(land) 1 league long and half a league broad; when it bears (*cum onerat*) it is worth 10 shillings. It (Preston) was worth 30 shillings; now 50 shillings.

The same count holds CINTONE [Kington juxta Claverdon].² Britnod held it and was a free man. There are 1½ hides. There is land for 1 plough. It is waste (*vasta*). It is worth 5 shillings. The wood(land) is worth yearly 10 shillings; it was worth as much T.R.E.

IN BEDRICESTONE [BARCHESTON] HUNDRET

The same count holds ILMEDONE [Ilmington]. Three thegns held it and were free. There are 7 hides less half a virgate. There

¹ This was probably the wood in Hatton parish adjoining 'Wegenok' (Wednock) Park and taken into the park by Thomas de Beauchamp, Earl of Warwick, under the name of Wegenok-Donele Wood (Dugdale, p. 182). Dugdale evidently forgot these particulars given by himself, and on p. 591 suggests that Donnelie was 'Bel-desert' (Beauesert) just above Henley in Arden. Although it is going somewhat further afield, it has occurred to me as a possibility that 'Donnele' is Honiley, which was adjacent to 'Wegenok' Park. Hatton and Haseley were doubtless in 'Fernecumbe' Hundred, for the reason given in the case of Snitterfield and Claverdon.

(I suspect that 'Donnelie' was Honiley, though the latter is a little to the northward.—J.H.R.)

² Dugdale (p. 431) calls this 'an obscure village,' but according to his account of the place, it is a farm or grange between Pinley and Claverdon. Mr. Walker observes that Kington is shown on Cary's map of Warwickshire, 1806. Kington Grange is shown on the 1-inch ordnance map of 1898.

(Ancient Deed B 1802 is a grant of a messuage 'in Kynton abutting on the highway from Watton towards Warwick, of the fee of Claverdon,' a description which answers to the position of Kington Grange.—J.H.R.)

is land for 12 ploughs. In the demesne are 3 ploughs and 9 serfs; and 24 villeins and 3 bordars with a priest have 8 ploughs. There are 40 acres of meadow. T.R.E. it was worth 7 pounds, and afterwards 100 shillings; now 10 pounds.

The same count holds WITECERCE [Whitchurch] for 2 manors. Alwin held it and could betake himself (*ire*) whither he would.³ There are 7 hides. There is land for 12 ploughs. In the demesne are 3 ploughs and 7 serfs; and 16 villeins and 1 free man and 2 bordars with a priest have 8 ploughs. There are 2 mills worth (*de*) 20 shillings, and 30 acres of meadow. It was worth 6 pounds; now 8 pounds 10 shillings.

IN COLESHELLE [COLESHILL] HUNDRET

The same count holds in CETITONE [Shuttington] 2½ hides, and Lewin from him. Celred and Godric held them and were free men. There is land for 3 ploughs. In the demesne is 1, and 2 serfs; and (there are) 7 villeins and 4 bordars with 2 ploughs. There is a moiety of a mill (*dimidium molini*) paying a rent of 5 shillings, and 8 acres of meadow. Wood(land) half a league long and 3 furlongs broad. It is worth 20 shillings.

The same count holds in the same vill 2½ hides, and Godric from him. The same (Godric) held it T.R.E. and was free. There is land for 5 ploughs. In the demesne is 1, and 2 serfs; and (there are) 3 villeins and 3 bordars with 1 plough. There is a moiety of a mill (*dimidium molini*) paying a rent of 5 shillings, and 8 acres of meadow. Wood(land) half a league long and 3 furlongs broad. It is worth 20 shillings.

The same count holds in WILMUNDECOTE [Wilnecote near Tamworth] 3 hides, and Ingenulf and Arnulf of him. Leuenot held it and was a free man. There is land for 6 ploughs. There are 11 villeins and 5 bordars with 2 smiths having 3½ ploughs. Wood(land) 1 league long and a half (league) broad is worth 5 shillings, and the smithy (*ferraria*) 5 shillings. It (the estate) is worth 30 shillings.

The same count holds in SECINTONE [Seckington] 2½ hides, and Ingenulf and Arnulf of him. Godric held it and was a free man. There is land for 5 ploughs. In the demesne are 2 ploughs; and (there are) 6 villeins and 5 bordars with 3 ploughs. It is worth 40 shillings.

³ i.e. could choose his lord.

A HISTORY OF WARWICKSHIRE

The same count holds in WATITUNE [Weddington] 3 hides, and Hereward of him. The same (Hereward) held it T.R.E. and was free. There is land for 7 ploughs. In the demesne are $1\frac{1}{2}$, and 4 serfs; and (there are) 12 villeins and 5 bordars with 4 ploughs. There are 20 acres of meadow. Wood(land) 2 furlongs long and 1 furlong broad. It is worth 30 shillings.

The same count holds in BERCHEWELLE¹ [Berkswell] 1 hide, and Walter of him. Leuenot held it, and was free. There is 1 villein with half a plough. It is worth 5 shillings.

The same count holds in WERLAUESCOTE [Arlescote ?]² 3 virgates of land. Saxi held it freely T.R.E. There is land for 1 plough, and the same is there, with 2 villeins and 3 acres of meadow. It is worth 2 shillings.

The same count holds in FRANCHETONE [Frankton]³ 1 hide and 1 virgate of land, and Ralf of him. There is land for 3 ploughs. In the demesne is 1, and 2 serfs; and (there are) 4 villeins and 1 bordar with 1 plough. There are 10 acres of meadow. It was and is worth 20 shillings. Chentuin held it freely T.R.E.

The same count holds in BORTONE [Bourton on Dunsmore]⁴ 5 hides, and Ingenulf of him. There is land for 8 ploughs. In the demesne are 3, and 7 serfs; and (there are) 13 villeins and 11 bordars with $3\frac{1}{2}$ ploughs; and 1 knight (*miles*) has there $1\frac{1}{2}$ ploughs. There are 50 acres of meadow. It was worth 60 shillings; now 70 shillings. Lewin held it freely T.R.E.

The same count holds in NEPTONE [Napton]⁵ 3 hides and 3 virgates of land, and Robert of him. There is land for 8 ploughs. In the demesne are 2, and 4 serfs; and 11 villeins with a priest and 8 bordars have $4\frac{1}{2}$ ploughs. There are 10 acres of meadow and as many (acres) of pasture. It was worth 4 pounds; now 3 pounds. Leuenot and Bundi held it freely T.R.E.

¹ See also p. 344 below.

² Arlescote appears as 'Orlavescote' on p. 317 below, but the above entry may also refer to it.—J.H.R.

³ Frankton in Knightlow Hundred. Frankton being in the Leet of Marton was doubtless in the Domesday Hundred of 'Meretone.'

⁴ Doubtless in 'Meretone' Hundred for exactly the same reason as Frankton.

⁵ Napton, Upper Shuckburgh and Thurlaston

The same count holds in SOCHEBERGE [Upper Shuckburgh]⁶ 4 hides, and Herleuin of him. There is land for 4 ploughs. In the demesne are 2, and 2 serfs; and (there are) 8 villeins and 6 bordars with $3\frac{1}{2}$ ploughs. There are 6 acres of meadow. It was worth 40 shillings, and afterwards 30 shillings; now 50 shillings. Lewin held it freely T.R.E.

The same count holds in TORLAUESTONE [Thurlaston]⁶ $2\frac{1}{2}$ hides. There is land for 6 ploughs. In the demesne is 1, and 2 bondwomen (*ancille*); and (there are) 4 villeins and 1 bordar with 2 ploughs. There are 50 acres of meadow, and 2 furlongs of pasture. It was worth 40 shillings, and afterwards 30; now 35 shillings. Wlgar held it freely T.R.E.

The same count holds in HODENELLE [Hodnell]⁶ 4 hides, and Gilbert of him. There is land for 4 ploughs. In the demesne is 1; and 1 knight with 6 villeins and 3 bordars has 3 ploughs. There are 20 acres of meadow. It was worth 20 shillings, and afterwards 40; now 60. Ordric held it freely T.R.E.

The same count holds in MORTONE [? Marton]⁷ $1\frac{1}{2}$ hides, and Mereuin of him. There is land for 6 ploughs. In the demesne is 1, and 1 serf; and (there are) 5 villeins and 6 bordars with 3 ploughs. There are 12 acres of meadow. It was worth 30 shillings, and afterwards 35 shillings; now 30 shillings. Mereuin and Scrotin and Wallef held it freely.

are all found afterward in the Leet of Marton, and were therefore doubtless in the Domesday Hundred of 'Meretone.'

⁶ Hodnell appears four times in Domesday Book, its total hidage, as will hereafter be seen, amounting to no less than 10 hides, an extraordinarily severe assessment if it was then, as now, only some 520 acres in extent, and severe enough even if it included most of Radbourn. It was undoubtedly in 'Meretone' Hundred, being so rubricated in a subsequent entry.

⁷ I think this identification is correct, though the mis-spelling of the name is curious, seeing that the Hundred of 'Meretone' to which Marton gave the name is always correctly spelled. Dugdale suggests that the third of these three entries, being that held by Wallef, was Marton, but it is evident that, having regard to the tenures of Wallef, Mereuin and Scroti, the three entries relate to one place. Hillmorton was also in the Leet of Marton, but is doubtless the 'Mortone' referred to in a subsequent entry jointly with 'Wilebec' [Willoughby], which is actually or almost an adjoining parish.

THE HOLDERS OF LANDS

The same count holds in the same vill [? Marton]¹ 1 hide and 1 virgate of land, and Wallef of him. There is land for 6 ploughs. In the demesne is 1, with 1 serf; and (there are) 10 villeins and 7 bordars with 4 ploughs. There are 12 acres of meadow. It was worth 50 shillings, and afterwards and now 45 shillings. Scroti held it freely T.R.E.

The same count holds in MORTONE [? Marton]¹ half a hide, and Wallef of him. There is land for 2 ploughs. There are 3 villeins with 1 bordar and 1 serf who have 1 plough, and there are 6 acres of meadow. It was worth 15 shillings; now 10 shillings. The same Wallef held it freely T.R.E.

IN BOMELAU HUNDRET

The same count holds in WESTONE [Weston in Arden]² 2 hides, and Fulk of him. There is land for 7 ploughs. In the demesne is 1; and (there are) 6 villeins and 7 bordars with 3 ploughs. There are 8 acres of meadow. It was and is worth 40 shillings.

The same count holds in WIBETOT [Wibtoft] and in WELEI [Willey] half a hide, and Fulk of him. There is land for 4 ploughs. In the demesne are 2; and (there are) 3 villeins and 4 bordars with 2 ploughs. There are 40 acres of meadow. It was and is worth 30 shillings.

The same count holds in the same vill 2½ hides, and Robert of him. There is land for 5 ploughs. In the demesne are 2; and 5 villeins and 3 bordars with 2 Frenchmen (*francig'*) have 3 ploughs. There are 30 acres of meadow. It was and is worth 50 shillings.

These three estates (*terras*)³ Sexi held freely T.R.E.

The same count holds in BOCHINTONE [Bulkington] 4 hides and 1 virgate of land, and Salo of him. There is land for 8 ploughs.

¹ See p. 314, note 7, above.

² This is certain, because 'Bomelau' Hundred consisted of a group of places in the north of Knightlow Hundred where this Weston is found. Weston, Bulkington, Wibtoft and Willey subsequently appear in Brinklow Leet. Weston is now only a hamlet in Bulkington, but in mediæval days Bulkington and Wibtoft were in Weston Manor. That being so it is interesting to note that the hides recorded in this and the next two entries amount to five.

³ i.e. those described in the three entries immediately preceding this note (J.H.R.)

In the demesne is 1, and 2 serfs; and (there are) 5 villeins with 1 plough. There are 100 acres of meadow. It was and is worth 20 shillings. Aliet and Alsi held it freely.

fo. 240b

The same count holds in ESTLEIA [Astley] 1 hide and Godric of him. There is land for 2 ploughs. In the demesne is 1 plough; and (there are) 5 villeins and 3 bordars with 1 plough. (There) is wood(land) 1 league long and half a league broad; when it bears (*onerat'*) it is worth 10 shillings. It (the estate) was and is worth 20 shillings. Alsi held it freely T.R.E.

The same count (holds) in SMERCOTE [Smercote]⁴ and in SOULEGE [Souley (End)]⁵ 1 hide, and Godric of him. There is land for 2 ploughs. There are 2 villeins. (There) is wood(land) 1 league long, and half a league broad; when it bears (*onerat'*) it is worth 10 shillings. It (the estate) was worth 15 shillings; now 5 shillings. Sexi held it freely T.R.E.

The same count holds in BEDEWORD [Bedworth] 4 hides, and Ulfchetel of him. There is land for 6 ploughs. In the demesne is 1, and 2 serfs; and (there are) 5 villeins and 3 bordars with 2 ploughs. There are 16 acres of meadow. (There is) wood(land) 1 league long and half a league broad; it is worth 10 shillings when it bears (*onerat'*). It (the estate) was and is worth 40 shillings. Earl Edwin held it.

The same count holds in SCELFTONE [Shilton] 2 hides, and Wallef of him. There is land for 3 ploughs. In the demesne is 1 plough; and (there are) 6 villeins and 2 bordars with 2 ploughs. There are 4 acres of meadow. (There is) wood(land) 2 furlongs long and 1 furlong broad. It was and is worth 40 shillings. The same Wallef held it freely T.R.E.

The same count holds in MERSTONE [Marston Jabbett]⁶ 1 hide, and Hereward of him.

⁴ A place 'depopulated' in Dugdale's time, and 'lying for the most part, if not all, in Bedworth.' Now apparently quite lost sight of.

(A Smercote Ma. and a Smercote P. are shown in 1695 on Morden's map of Warwickshire.—B.W.)

⁵ Sole End in Astley, now represented only by Sole End farm.

⁶ All these nine places following after Weston (namely, Wibtoft, Willey, Bulkington, Astley, Smercote, Souley, Bedworth, Shilton and Marston Jabbett) were in the same corner of Knightlow Hun-

A HISTORY OF WARWICKSHIRE

There is land for 4 ploughs. In the demesne are 2, and 1 bondwoman (*ancilla*); and (there are) 12 villeins and 8 bordars with 4 ploughs. There are 6 acres of meadow. It was and is worth 3 pounds. The same Hereward held it freely T.R.E.

IN MERETONE [MARTON] HUNDRET

The same count holds in LODBROC [Ladbroke] 2 hides. There is land for 3 ploughs. In the demesne is 1. William holds it from him.¹ There are 4 villeins and 1 bordar with 2 ploughs, and 10 acres of meadow. It was worth 20 shillings; now 50 shillings.

The same count holds in BERNHANGRE [Barnacle]² 3 virgates of land, and Hereward of him. There is land for 2 ploughs. There are 2 villeins and 2 bordars with 1 plough. (There is) wood(land) 4 furlongs long and 3 broad. It was and is worth 20 shillings. The same Hereward held it freely T.R.E.

The same count holds, and Gilbert of him, 2 hides and 1 virgate of land which belong to the earl's manor of STANLEI.³ There is 1 plough in the demesne. It is worth 20 shillings.

The same count holds in ILLINTONE [Lillington]⁴ 4 hides, and Warin and Roger of him. There is land for 4 ploughs. In the demesne is 1, and 4 serfs; and (there are) 2 villeins and 3 bordars with 1 plough. There is a mill worth (*de*) 6 shillings and 8 pence. There are 9 acres of meadow; wood(land) 1 league long and half (a league) broad. It was worth 20 shillings; now 40 shillings. Edric held it freely T.R.E.

The same count holds in WIDECOTE [Woodcote]⁵ 1 hide, and Gilbert of him.

dred, and were doubtless, like Weston, in 'Bomelau' Hundred. In the Subsidy Roll of 1 Edward III. they all appear in the Leet of Brinklow, Smercote and Souley not being named, but being doubtless included in Bedworth and Astley.

¹ This clause is obviously misplaced.

² Here we apparently go back to 'Bomelau' Hundred. Barnacle is in Bulkington parish.

³ I cannot identify this place. Stoneleigh appears in Domesday as wholly the king's.

⁴ This Domesday form of the name seems to be a mere clerical error, and might almost be read as 'Lilintone.' Lillington, being afterward in Stoneleigh Leet, was doubtless in the Domesday Hundred of 'Stanlei.'

⁵ Woodcote, Weston and Cubbington all appear at a later date in Stonleigh Leet, and were doubtless in the Domesday Hundred of 'Stanlei.'

There is land for 1 plough. There 1 knight (*miles*) with 2 villeins and 9 bordars has 1½ ploughs. The wood(land) is (*habet*) 1 league long and half (a league) broad. It was worth 10 shillings; now 20 shillings. Leuric held it freely T.R.E.

The same count holds in WESTONE [Weston under Wetherley]⁶ 3 hides less one-third of a virgate (*tercia parte unius virgatae minus*), and Robert of him. There is land for 5 ploughs. In the demesne are 2, and 2 bondwomen. There are 1 knight and 3 villeins and 7 bordars with 2 ploughs; and (there are) 12 acres of meadow. (There is) a spinney (*spinetum*) 2 furlongs long and 1 broad. It was worth 30 shillings; now 50 shillings. Ulf held it freely T.R.E.

The same count holds in CUBITONE [Cubbington]⁶ 3 hides, and Boscher of him. There is land for 3 ploughs. In the demesne is 1 plough with 3 bordars. There are 8 acres of meadow. It was worth 40 shillings; now 30 shillings. Lewin and Chetelbern held it freely T.R.E.

IN HONESBERIE HUNDRET

The same count holds in WIMERESTONE [Wormleighton] 1½ hides. There is land for 5 ploughs. Gilbert holds of him. In the demesne are 2 ploughs, and 6 serfs, and (there are) 15 villeins and 2 bordars with 7 ploughs and with a priest.⁶ There are 9 acres of meadow. It was worth 30 shillings, and afterwards 20 shillings; now 4 pounds and 10 shillings. Leuric held it freely T.R.E.

The same count holds in WARMINTONE [Warmington]⁷ 2½ hides, and a certain knight of him. Azor held it freely T.R.E. It is worth 20 shillings. What (*quæ*) this knight has there was included in the reckoning of the estate of the men (*cum hominum pecunia qui sunt in manerio comitis numerata sunt*) who are in the count's manor.⁸

⁶ This is an anomalous formula. Probably the priest was omitted by the scribe who ought to have grouped him with the villeins, etc.—J.H.R.

⁷ See p. 310, note 6.

⁸ On reference to the previous entry relating to Warmington (p. 310), it will be seen that the count held it as a demesne manor, and that while there was land for only 14 ploughs, no less than 18 are there recorded as in use. In this present entry nothing is said as to how many ploughs there was land for. I apprehend that there was land for at least 4, making up room for the 18 in use. No villeins, bordars or serfs are here recorded, because they were (? by mistake) given in the former entry.

THE HOLDERS OF LANDS

The same count holds in ORLAVESCOTE [Arlescote]¹ 5 hides, and (the abbey of) St. Peter of Préaux (holds) of him. There is land for 5 ploughs. In the demesne are 1½ ploughs and 2 serfs; and (there are) 4 villeins and 3 bordars with 2 ploughs. There are 12 acres of meadow. It was and is worth 3 pounds. Boui held it freely T.R.E.

The same count holds in CONTONE [Fenny Compton]² 4 hides and 3 virgates of land, and Gilbert of him. There is land for 6 ploughs. In the demesne are 2 ploughs and 7 serfs; and (there are) 8 villeins with a priest and 6 bordars with 4 ploughs. There are 40 acres of meadow. It was worth 60 shillings; now 4 pounds. Aluric held it freely T.R.E.

The same count holds in TACESBROC [Tachbrook]³ 8 hides less 1 virgate, and Roger of him. There is land for 6 ploughs. In the demesne is half a plough; and (there are) 5 villeins and 7 bordars with 3 ploughs. There are 12 acres of meadow. It was worth 60 shillings; now 40. Baldeuin held it freely T.R.E.

The same count holds in NIWEBOLD [Newbold Comyn]⁴ 2 hides, and Gilbert of him. There is land for 4 ploughs. In the demesne are 2; and (there are) 6 villeins and 4 bordars with 4 ploughs. There are 12 acres of meadow. It was worth 30 shillings; now 50 shillings. Alsí, Ailred and Tube held it freely T.R.E.

¹ See p. 314, note 2. ² See pp. 311, 312.

³ Although in the Subsidy Roll of 1 Edward III. Tachbrook Episcopi and Tachbrook Mallory were both in Kinton Hundred, yet as early as Dugdale's time the former was in Kinton Hundred and the latter in Knightlow Hundred. I think this is Tachbrook Mallory, and that being between Whitnash and Harbury, it was, like them, in 'Stanlei' Hundred. But even if it were Tachbrook Episcopi (now Bishop's Tachbrook), that place would not be in 'Honesberie' Hundred, which was in quite another part of Kinton Hundred.

⁴ I have little doubt of this, not merely because Newbold Comyn was afterward in Stoneleigh Leet and therefore doubtless in 'Stanlei' Hundred, but because the 2 hides of this entry, together with the 3 hides held by Malmesbury Abbey as stated in the former entry, make it a 5-hide place. It is also instructive to notice that in both entries the relation of number of hides to number of ploughs is the same, namely 2 to 4 and 3 to 6, while the Domesday and T.R.E. values are identical, namely 50 shillings and 30 shillings in each case. Newbold Pacey, which might seem a possible alternative, is accounted for elsewhere as a 5-hide place.

IN PATELAU [PATHLOW] HUNDRET

The same count holds in LUDITONE [Luddington] 12 hides, and 4 knights of him. There is land for 9 ploughs. In the demesne are 5 ploughs; and (there are) 20 villeins and 9 bordars with 5 ploughs. There are 42 acres of meadow. It was worth 8 pounds; now 6 pounds. Four thegns held it freely T.R.E. as 2 manors.

The same count holds in LOCHESLEI [Loxley]⁵ 4 hides less 1 virgate, and Hugh of him. There is land for 8 ploughs. In the demesne are 2, and 3 serfs; and 11 villeins with a priest and 11 bordars have 6 ploughs. It was worth 30 shillings; now 4 pounds and 10 shillings. Estan held it freely T.R.E.

The same count holds in PRESTETONE [Preston Bagot]⁶ 5 hides, and Hugh of him. There is land for 3 ploughs. In the demesne is half a plough and 2 serfs; and (there are) 1 villein and 3 bordars with 1 plough. It was worth 30 shillings; now 40. Britnod held it freely T.R.E.

The same count holds in OVESLEI [Oversley]⁶ 3 hides, and Fulk of him. There is land for 4 ploughs. In the demesne is 1, and (there are) 5 villeins and 5 bordars with 2 ploughs. There is a mill worth (*de*) 4 shillings and 6 acres of meadow; wood(land) 3 furlongs long and 1 broad. It was and is worth 40 shillings. Britmar held it freely T.R.E.

IN BERRICEST(ONE) [BARCHESTON] HUNDRET

The same count holds in ILMEDONE [Ilmington]⁷ 1 hide and half a virgate, and Odard of him. (Odard) has there in demesne 2 ploughs and 6 serfs; and (there are) 6 villeins with half a plough. It is worth 40 shillings. This estate (*terra*) is in the count's manor of Ilmedone.

IN WITECERCE [Whitchurch],⁷ the count's

4

⁵ This is written as follows: 'iiii hid et Hugo de eo 4 una v min', the reference signs showing that it must be read in accordance with the above translation. The deducted virgate appears in a later entry.

⁶ Preston and Oversley appearing afterward in Barlichway Hundred but not in Pathlow Liberty were doubtless in the Domesday Hundred of 'Ferneckumbe.'

⁷ Ilmington and Whitchurch are two contiguous places, mentioned together some way back among the count's demesne manors. No doubt Whitchurch, like Ilmington, was in Barcheston Hundred. Each, it may be mentioned, contained 8 hides.

A HISTORY OF WARWICKSHIRE

manor, Walter holds of him 1 hide and has there 1 plough; and (it) is worth 10 shillings. Alwin held it freely T.R.E.

The same count holds in ULWARDA [Wolford]¹ 4½ hides, and Ralf of him. There is land for 4 ploughs. In the demesne is 1, and 2 serfs; and (there are) 3 villeins and 5 bordars with 1 plough. It was worth 30 shillings; now 40 shillings. Alvrice held it freely T.R.E.

XVII. THE LAND OF TURCHIL OF WARWICK

IN COLESHELLE [COLESHILL] HUNDRET

Turchil holds of the king CREDEWORDE [Curdworth]. There are 4 hides. There is land for 7 ploughs. In the demesne are 3 ploughs and 3 serfs; and (there are) 12 villeins and 7 bordars with 5 ploughs. There are 16 acres of meadow; wood(land) half a league long, and as much broad. It was worth 40 shillings; now 50 shillings. Ulwin held it freely T.R.E.

¹ This is apparently Wolford in Kinton Hundred. The following entries in Domesday Book appear to relate to Wolford:—

- (1) *Ukware*, 1½ hides held by the Bishop of Bayeux.
- (2) *Ukwarda*, 4½ hides held (as above) by the Count of Meulan.
- (3) *Uokwarde*, 7 hides held by Robert de Stadford.
- (4) *Worwarda*, 2 hides held by the same.
- (5) *Worwarda* (in eadem villa), 2 hides held by the same.

Of these, 1 and 2 were probably the same place, having been held by an Alvrice T.R.E. Judging by the particulars of 1 alone, I should have supposed it to be some place near Beausale in Barlichway Hundred, for it was held under the bishop by the same tenants as Beausale, namely Wadard, and (under him) Gerold. But 2, following after Ilmington and Whitchurch, seems to be the third of three places in Barcheston Hundred, in which, judging by its locality, I suppose Wolford to have been. We may without hesitation pronounce 3 to have been Wolford, which is afterward found in the Barony of Stafford, and, judging by the mention of a priest, it was no doubt Great Wolford. No doubt also 4 and 5 were also Wolford, not merely because they were held by Robert de Stadford, but because also they came next after 'Bertone,' which is rubricated as being in Barcheston Hundred. The hidage does not help us in coming to a decision, but it may be noted that the hides of 1, 2, 4 and 5 make up 10. Dugdale (pp. 451-2) identifies 3, 4 and 5 as Great Wolford, and 2 as Little Wolford, but omits to notice 1.

The same Turchil holds BICHEHELLE [Bickenhill].² There are 2 hides. There is land for 4 ploughs. In the demesne is half a plough; and (there are) 7 villeins and 4 bordars with 3 ploughs. There are 3 acres of meadow; wood(land) 4 furlongs long, and as much broad. It was and is worth 30 shillings. Alward held it freely T.R.E.

The same T(urchil) holds the other BICHEHELLE [Bickenhill].³ There are 2 hides. There is land for 4 ploughs. There are 8 villeins with 2 ploughs. (There is) wood(land) 12 furlongs long and 6 broad. It was worth 20 shillings; now 10 shillings. Alvrice held it freely T.R.E.

The same T(urchil) holds in MENEWORDE [Minworth] 1 hide. There is land for 1 plough. There is 1 villein with half a plough, and 5 acres of meadow. Wood(land) half a league long and 3 quarentines broad. It was and is worth 5 shillings. Godric held it freely T.R.E.

IN MERETONE [MARTON] HUNDRET

The same T(urchil) holds ULFELMESCODE [Wolfhamcote]. There are 4½ hides. There is land for 3 ploughs. In the demesne is 1, and 4 serfs; and 7 villeins with a priest and 10 bordars have 4 ploughs. There are 5 acres of meadow. It was and is worth 40 shillings. Aschil held it freely T.R.E.

IN STANLEI [STONELEIGH] HUNDRET

The same T(urchil) holds in RIETONE [Ryton on Dunsmore] 3½ hides. There is land for 10 ploughs. There are 23 villeins with a priest and 8 bordars who have (*habentes*) 8 ploughs; and there is a mill worth (*de*) 12 shillings, and 12 acres of meadow; wood(land) half a league long and 2 furlongs broad. It was worth 100 shillings; now 60 shillings. Alwin his (i.e. Turchil's) father held it freely T.R.E.

fo. 241

From Turchil Gudmund his brother³ holds PATITONE [Packington].⁴ There are 4 hides. There is land for 3 ploughs. In the de-

² Probably the first of the two is Church Bickenhill and the other is Middle Bickenhill, but how the various hamlets were divided between the two I cannot say.

³ 'fr ei' (= frater ejus) is interlineated above 'Gudmund.'

⁴ This brings us back to Coleshill Hundred again. The space for 'Coleshelle Hundret' has been left in the MS. and not filled in.

THE HOLDERS OF LANDS

mesne is 1; and (there are) 7 villeins and 8 bordars with 3 ploughs. There are 2 mills worth (*de*) 2 shillings, and 10 acres of meadow; wood(land) 1 league long and 1 broad, worth 20 shillings when it bears (*onerat*). The whole was and is worth 30 shillings. Alward held it (and) was free.

From T(urchil) Almar holds LANGEDONE [Longdon in Solihull].¹ There are 2½ hides. There is land for 2 ploughs. In the demesne is half (a plough); and 6 villeins and 3 bordars have 1½ ploughs. There are 6 acres of meadow; wood(land) 1 league long, and a half broad. It was and is worth 20 shillings. Arnul held it T.R.E.

From T(urchil) Alnod holds MACHITONE [Maxstoke].² There are 5 hides less 1 virgate. There is land for 5 ploughs. There are 10 villeins and 4 bordars with 3 ploughs, and 2 acres of meadow. (There is) wood(land) 1 league long and half (a league) broad. It was worth 20 shillings; now 40 shillings. Ailmund held it freely T.R.E.

From T(urchil) Roger holds MERSTONE [Marston Green in Bickenhill].³ There are 3 hides. There is land for 3 ploughs. In the demesne is 1; and (there are) 4 villeins and 2 bordars with 3 ploughs. There are 2 acres of meadow. It was worth 20 shillings; now 30. Eduin the sheriff held it freely.

From (Turchil) the same Roger holds in ELMEDONE [Elmdon] half a hide. There is land for half a plough, yet there is there in the demesne 1 plough, and 5 acres of meadow. (There is) wood(land) 1 furlong long, and another broad. It was and is worth 5 shillings. Tochi held it freely.

¹ Longdon does not appear in the Subsidy Roll of 1 Edward III., but was a well recognized manor in the time of Dugdale. It is now only a farm. At the time of Domesday it may have included Widney.

² This was probably the original name of the place, and is still I believe preserved in the form of Mackidown, which is the name given to some part of the parish.

[The Domesday form clearly reappears in the name of Helias son of Helias de 'Makinton,' grantee of some land in the neighbouring parish of Elmdon (Ancient Deed, C. 2025). The deed is assigned to the reign of Hen. III.—J.H.R.]

³ Of the six references in the Warwickshire Domesday to places named 'Merstone' or 'Merse-tone,' one has been dealt with already (see p. 315); one situate in 'Tremelau' Hundred is certainly Marston Butler (now Butler's Marston); and two, one held by Robert de Olgi and one by Robert Dispensator, are rubricated as in Coleshill Hundred. This 'Mers-

tone,' coming between Maxstoke and Elmdon, is probably like them in Coleshill Hundred. I have no doubt that, coming as it does next to Elmdon, it is that Marston which Dugdale divides into Wavers Marston (now Marston Hall) and Marston Culi (now Marston Green). The only other Marston in Coleshill (now Hemlingford) Hundred is Lea Marston, and, as will appear, I take that to be represented in Domesday by the two 'Merstones' which, as mentioned above, were held by Robert de Olgi and Robert Dispensator. None of the Hemlingford Hundred Marstons was important enough to appear by name in the Subsidy Roll of 1 Edward III. Lea Marston appears as 'La Lee juxta Kingsbury.'

From T(urchil), R. de Olgi holds in DERCE-LAI [Dosthill] ⁵ 2 hides in pledge (*in uadim*). There is land for 3 ploughs. There are 7 villeins with 2 ploughs, and 2 serfs, and a mill worth (*de*) 32 pence, and 10 acres of meadow; wood(land) 2 furlongs long and as much broad. It was worth 30 shillings; now 40 shillings. Untain ⁶ held it.

From T(urchil), Eduin holds in WITCORE [Whitacre] ⁷ 2 hides less 1 virgate. There

tone,' coming between Maxstoke and Elmdon, is probably like them in Coleshill Hundred. I have no doubt that, coming as it does next to Elmdon, it is that Marston which Dugdale divides into Wavers Marston (now Marston Hall) and Marston Culi (now Marston Green). The only other Marston in Coleshill (now Hemlingford) Hundred is Lea Marston, and, as will appear, I take that to be represented in Domesday by the two 'Merstones' which, as mentioned above, were held by Robert de Olgi and Robert Dispensator. None of the Hemlingford Hundred Marstons was important enough to appear by name in the Subsidy Roll of 1 Edward III. Lea Marston appears as 'La Lee juxta Kingsbury.'

⁴ This is Dugdale's identification and is, I suppose, correct. Turchil's descendants the Ardens afterwards had an interest in it. It is now a farm in Sutton Coldfield on the border of Curdworth.

⁵ This is also Dugdale's identification, and also, I think, correct. He says that the name is spelled in later documents Derteulla (? for Derceulla) and Derchetull. Also the de la Laundes had an interest in it, and they were descendants of Chetelbern who was doubtless a relation of Turchil. Further, however, the Marmions subsequently had an interest here as they had in Barston (*Bertane-stone*) which also Domesday records as held by R. de Olgi in pledge. Dosthill is a village in Kingsbury parish.

⁶ Untain seems a curious name. I suggest that it is a mis-reading of 'un' (= unus) tainus.

('Unton,' however, is met with below.—J.H.R.)

⁷ Whitacre appears twice in the Warwickshire Domesday as 'Witecore,' once as 'Witacre,' and once in the Northamptonshire Domesday as 'Witacre.' There are recorded in the two 'Witecores' a hidage of 2½ hides, and in the two 'Witacres' 1 hide. I therefore think that this 'Witecore' represents part of Nether Whitacre which is larger than Over Whitacre. Dugdale assigns all three entries to Nether Whitacre, but I think that 2½ (= half 5) hides and 1 hide are the probable allocation of the total.

A HISTORY OF WARWICKSHIRE

is land for 1 plough; the same is in the demesne with 2 villeins and 5 bordars; and there are 2 acres of meadow; wood(land) 1 league long, and half (a league) broad. It was and is worth 10 shillings. Two Ulvrics held it freely T.R.E.

From T(urchil), R. de Olgi holds BERTANE-STONE [Barston]¹ in pledge. There are 9 hides. There is land for 11 ploughs. In the demesne is 1 plough; and 6 free men with 9 villeins and 4 bordars have 10 ploughs. There is a mill worth (*de*) 4 shillings; wood(land) half a league long and 3 furlongs broad. It was and is worth 100 shillings. Ailmar held it, and by the king's licence sold it to Alwin the sheriff, the father of Turchil.

From T(urchil) William holds BEDESLEY [? Baddesley Ensor].² There are 2 hides. There is land for 2 ploughs. There are 3 villeins and 5 bordars and 2 serfs with 1 plough. (There is) wood(land) 1½ leagues long and half a league broad. It was and is worth 10 shillings.

Of this estate this William seized upon (*præoccupavit*) a fifth part to the wrong of King William (*super W. regem*); and a certain Brictric who used to hold it T.R.E. dwells there. The other part of the estate (*aliam terram*) Archil and Cerret, Turchil's men, held.

From (Turchil) four brothers hold in WLFES-MESCOT [? Wolfhamcote]³ 1 hide and half a

¹ What I judge to be a duplicate of this entry occurs later (p. 331), and the hidage is there given as 10 hides. In the Subsidy Roll of 1 Edward III. the name appears in the intermediate form of 'Berstanston.'

² I have no doubt that this identification is correct, though Dugdale gives no reasons in support of it, and judging by proximity to 'Bertanestone' it would more naturally be Baddesley Clinton. But that place was, I think, too unimportant for such a hidage. For example, in 1 Edward III. the inhabitants of Baddesley Clinton paid only 3*s.* 6*d.* subsidy, while those of 'Baddesley Endeshouer' paid 23*s.* 6*d.* Dugdale does not trace any subsequent Arden interest in either place, but I feel sure that the devolution of Baddesley Ensor (Edensor) was the same as that of Baginton, which, as Dugdale shows, came to Geoffrey Savage in frank marriage with Letice daughter of Henry de Arden, and descended to the Edensors in right of the marriage of Thomas de Edensor with Lucy daughter and eventually coheiress of Geoffrey Savage grandson of Geoffrey and Letice. It is curious, and possibly significant, that Baddesley (Ensor) and Baginton were both held T.R.E. by Archil.

³ With this entry we leave Coleshill Hundred, and find ourselves in the Hundred of Marton.

virgate of land.⁴ There is land for 2 ploughs, and yet there are there 3 ploughs, and (there are) 3 acres of meadow. It was and is worth 20 shillings. The very same men (*idem ipsi*) held it, and were free.

From T(urchil) Hermenfrid holds in LODBROCH [Ladbroke] 1 hide and 1 virgate of land. There is land for 2 ploughs. There are 3 men having 2 ploughs; and 6 acres of meadow. It was worth 15 shillings; now 20 shillings. Eduin held it.

From T(urchil) Ermenfrid holds in CALDECOTE [Caldecote in Grandborough]⁵ half a hide. There is land for 2 ploughs. In the demesne is 1, and 8 acres of meadow. It was worth 4 shillings; now 8 shillings.

From T(urchil) Richard holds in CALDECOTE [Caldecote in Grandborough]⁶ half a hide. There is land for 1 plough. It is there with 2 men, and 8 acres of meadow. It was and is worth 4 shillings.

From T(urchil) Almar holds in LODBROC and REDBORNE [Ladbroke and Radbourn] 1½ hides.⁶ There is land for 4 ploughs. In the demesne are 3, and 6 serfs; and (there are) 9 villeins and 2 bordars with 3 ploughs; and there are 6 acres of meadow. It was worth 30 shillings; now 40 shillings.

From T(urchil) Almar holds in CALVESTONE [Cawston?]⁷ 1½ hides. There is land for 3 ploughs. In the demesne is 1 with 1 serf; and 4 villeins and 2 bordars have 1 plough. It was worth 10 shillings; now 16 shillings.

⁴ This seems a singular hidage, but on comparison with the previous entry of Wolfhamcote we find that this entry includes exactly one quarter of the hidage there recorded. It looks as if the place had been assessed at 5 hides, and then one-eighth of a hide had been tacked on to each complete hide, the total being 5 hides and five-eighths of a hide. It is possible that this place may be Woolscott in Grandborough, but I know of no evidence connecting Turchil's descendants with it as is the case with Wolfhamcote. Both places were in the Leet of Marton, and therefore doubtless in the Domesday Hundred of 'Meretone.'

⁵ Dugdale gives the name as 'Caldecote,' as does the Ordnance Survey, but it appears in modern directories as 'Calcutt.'

⁶ If we divide this equally between the two places, making Ladbroke's share three-quarters of a hide, it will be found that the total hidage of Ladbroke (which appears seven times in Domesday Book) is 8 hides. Of these, exactly 5 hides were held by William, who was tenant under the Count of Meulan, Turchil, and Hugh de Grentmesnil.

⁷ In Dunchurch.

THE HOLDERS OF LANDS

From T(urchil) William holds in LODBROC [Ladbroke] 2 hides and 1 virgate of land. There is land for 2 ploughs. There are 4 villeins and 3 bordars and 2 serfs and ¹ 1 knight (*miles*) with 2 ploughs among all. There are 2 acres of meadow. It was worth 20 shillings; now 40 shillings.

From T(urchil) 1 priest holds 1 virgate of land in the same (*ipsa*) vill. There is 1 plough with 1 villein; and there are 2 acres of meadow. It was worth 5 shillings; now 10 shillings.

From T(urchil) Eddulf holds in ROCHEBERIE [Rugby] 2½ hides. There is land for 6 ploughs. In the demesne is 1 plough and 2 serfs; and (there are) 11 villeins and 5 bordars with 5 ploughs. There is a mill worth (*de*) 13 shillings and 4 pence, and 16 acres of meadow. It was worth 50 shillings; now 40 shillings.

From (Turchil) Ulf holds in CALVESTONE [Cawston] 1 hide.² There is land for 1 plough. It is in the demesne; and (there are) 4 villeins and 1 bordar and 1 serf. It was worth 10 shillings; now 12 shillings.

These 9 estates (*terræ*) before mentioned³ Euduin held and was able to betake himself (*ire*) whither he wished.

From T(urchil) Goslin holds in BERDINGEBERIE [Birdingbury] 1 hide and half a virgate of land. There is land for 3 ploughs. There are 3 franklins (*francones homines*) with 4 villeins and 3 bordars who have (*habentes*) 3 ploughs. It was worth 20 shillings; now 40 shillings. The same franklins (*homines francones*) held it T.R.E.

IN MERETONE [MARTON] HUNDRET⁴

From T(urchil) Robert holds in EPTONE [Napton]⁵ 3 virgates of land. There is

land for 5 ploughs. In the demesne is 1; and 4 villeins and 5 bordars have 2 ploughs. There are 8 acres of meadow. It was worth 10 shillings; now 30 shillings. Euduin held it.

From T(urchil) Oslach holds in FLECHENOC [Flecknoe⁶] 2½ hides. There is land for 4 ploughs. In the demesne are 1½, and 3 serfs; and (there are) 10 villeins and 3 bordars with 3½ ploughs. It was and is worth 30 shillings. Euduin held it.

From T(urchil) Harding holds in HODENHELLE [Hodnell] 4 hides. There is land for 4 ploughs. In the demesne is 1, and (there are) 11 villeins and 2 bordars with 2 ploughs, and (there are) 20 acres of meadow. It was and is worth 40 shillings. Ulnod held it freely T.R.E.

From T(urchil) Goduin holds in the same vill 1 hide. There is land for 1 plough. It is in the demesne, with 1 serf; and (there are) 4 bordars with half a plough, and (there are) 4 acres of meadow. It was worth 10 shillings; now 20 shillings. Ordric held it freely T.R.E.

From T(urchil) Ailric holds in FLECHENHO [Flecknoe⁶] 1 hide and half a virgate of land. There is land for 2 ploughs. In the demesne is 1; and (there are) 1 villein and 4 bordars with 1 plough. There are 4 acres of meadow. It was worth 20 shillings; now 30 shillings. Alwin the father of T(urchil) held it.

From T(urchil) Gilbert holds in LODBROC [Ladbroke] 3 virgates of land. There is land for half a plough. In the demesne however is 1 plough and 2 serfs; and (there are) 2 acres of meadow. It was worth 5 shillings; now 10 shillings. Hereward held it.

From T(urchil) Ulvric holds in WILEBERE [Willoughby] 1½ virgates of land. There is land for 1 plough. The same is in the demesne; and (there are) 2 villeins with 1 bordar; and (there is) 1 acre of meadow. It was

was simply a clerical error resulting from the collocation of the final 'n' of 'in' and the initial 'N' of 'Neptune,' but the same form occurs a few entries lower down. Robert has already been recorded as holding 3 hides 3 virgates in 'Neptune' under the Count of Meulan. His further 3 virgates recorded here, and Ulchetel's half-hide mentioned a few entries hence bring up the total hidage to the constantly recurring 5 hides.

⁶ In Wolfhamcote.

¹ The scribe wrote 'c,' inadvertently beginning the word 'cum.' He then wrote through it thus *̄*, the sign for 'et,' realizing no doubt that it would be improper to record a knight as if he were apurtenant to villeins, bordars and serfs.

² This, with the 1½ hides previously recorded, makes Calvestone a 2½-hide place (= half 5 hides).

³ i.e. Caldecote, Caldecote, Lodbroc, Redborne, Calvestone, Lodbroc, Lodbroc, Rocheberie and Calvestone. These 9 estates were not grouped together without reason. They contain exactly 10 hides (½ + ½ + 1½ + 1½ + 2½ + ½ + 2½ + 1).

⁴ This rubrication is unnecessary here, for it comes in the middle of a list of places in Marton Hundred.

⁵ I have little doubt of this identification. I should have supposed that this form of the name

A HISTORY OF WARWICKSHIRE

and is worth 10 shillings. The same Ulvric held it freely.

From T(urchil) Ulsi holds 3½ virgates of land.¹ There is land for 1½ ploughs. In the demesne is half (a plough), and (there are) 2 villeins and 3 bordars with 1 plough; and (there are) 4 acres of meadow. It was and is worth 10 shillings.

From (Turchil) Gilbert holds in BENTONE [Bilton]² 1 virgate of land. There is land for half a plough. It was worth 5 shillings; now 2 shillings.

From T(urchil) Ordric holds in WALECOTE and WILEBENE and CALDECOTE [Walcote and Willoughby and Caldecote in Grandborough] 2 hides. There is land for 1 plough. In the demesne however is 1 plough and 2 serfs; and (there are) 4 villeins and 6 bordars with 1½ ploughs. There are 6 acres of meadow. It was worth 20 shillings; now 30 shillings. The same Ordric held it freely.

From (Turchil) Ulchetel holds in EPTONE [Napton]³ half a hide. There is land for 3 ploughs. In the demesne is half a plough; and (there are) 4 villeins and 2 bordars with 1½ ploughs; and (there are) 6 acres of meadow. It was worth 20 shillings; now 30 shillings. The same Ulchetel held it freely.

From (Turchil) Alwin holds in SOCHEBERGE [Upper Shuckburgh]⁴ half a virgate of land. There is land for half a plough. It is there in the demesne with 2 bordars; and (there are) 2 acres of meadow. It was and is worth 5 shillings. Ulwin held it freely.

¹ The place where this estate was is not given.

² I have no doubt that this identification is correct, for these are still places in 'Meretone' Hundred, and there is no other name that could be mistaken for it among places subsequently appearing in Marton Leet. Moreover, as pointed out in the note on the previous entry of Earl Roger's estate, we have here the missing virgate which makes Bilton a 5-hide place. Dugdale suggests that one scribe wrote 'Beu' because that was equivalent to 'Bel,' and that another scribe mistook the 'u' for 'n.' This however seems far-fetched. It appears to me that at one stage or another the names of places were often written down from word of mouth by men who could not easily distinguish the sounds of the liquid consonants.

³ See p. 321, note 5.

⁴ As mentioned in a former note (p. 314, note 5) this is Upper Shuckburgh, being in 'Meretone' Hundred, whereas Lower Shuckburgh was in 'Honesberie' and afterwards in Kinton Hundred.

From T(urchil) Leuiet and Goduin hold in WILEBEI [Willoughby] half a hide. There is land for 1 plough. The same is in the demesne, and (there are) 2 acres of meadow. It was and is worth 10 shillings. The very same men (*Idem ipsi*) held it.

From T(urchil) Godric holds in NIWETONE [Newton⁵] 2 hides.⁶ There is land for 2 ploughs. In the demesne is 1, and (there are) 4 villeins and 2 bordars; and 2 acres of meadow. It was and is worth 20 shillings. Wlstan held it freely T.R.E.

From T(urchil) Alde holds in NIWETONE [Newton⁵] half a hide. There is land for half a plough; yet 1 (plough) is there with 2 bordars. It was and is worth 10 shillings. Godeva held it freely.

From T(urchil) Ralf holds in NIWETONE [Newton⁷] half a hide. There is land for 1 plough. There are 2 villeins and half an acre of meadow. It was and is worth 2 shillings.

From T(urchil) Ulvric holds in HOLME⁸ [? Biggin] 1 hide. There is land for half a plough; yet there is there 1 plough with 2 villeins and 1 bordar and 1 serf; and (there are) 3 acres of meadow. It was worth 5 shillings; now 10 shillings. The same Ulvric held it freely.

fo. 241b

From T(urchil) Ralf holds in HOLME⁸ [? Biggin] 1 hide. There is land for 1 plough. There is 1 bordar with half a plough, and (there are) 3 acres of meadow. It was worth 5 shillings; now 3 shillings. Ulstan held it freely T.R.E.

⁵ In the parish of Newton and Biggin.

⁶ Here begins a list of places (down to 'Lilleford') afterwards found in Brinklow Leet, but in the Domesday Hundred of 'Meretone,' I think, 'Bomelau' being more north and Marston being undoubtedly in Marton Leet. Newton is now considered to be in Clifton, but in the Subsidy Roll of 1 Edward III. was in Brinklow Leet, Clifton being in Marton Leet, as it had been in 'Meretone Hundred' at the time of Domesday Book.

⁷ See note 5 above.

⁸ Dugdale, finding this place following after Newton, identifies it as Biggin, which now appears combined with Newton. I think he is right, as the 3 hides recorded for Newton and the 2 hides of Holme would make up a 5-hide place.

[The *Testa de Nevill* (pp. 83, 98) shows that 'Holm' was held by the Ardens of the Earls of Warwick.—J.H.R.]

THE HOLDERS OF LANDS

From T(urchil) the same Ralt holds in WAURA [? Churchover]¹ half a hide. There is land for half a plough. There is 1 villein and half an acre of meadow. It was and is worth 3 shillings.

From T(urchil) Leveva holds in LILLEFORD [Long Lawford and Little Lawford]² 2 hides. There is land for 1½ ploughs. There are 6 villeins with 1 plough, and 1 serf (*seruo*), and a mill worth (*de*) 4 shillings, and 1½ acres of meadow. It was worth 20 shillings; now 10 shillings and 8 pence. Alwin held it freely T.R.E.

From T(urchil) R. de Olgi holds in MERSTONE [? Marston juxta Wolston]³ 1 hide. There is land for 1 plough; it is waste (*vasta*). There are 3 acres of meadow. It was worth 10 shillings; now 16 pence. Earl Algar held it.

From T(urchil) Ermenfrid holds in ASCESHOT [Ashow]⁴ 2 hides. There is land for 4 ploughs. There are 9 villeins and 13 bordars with 4 ploughs, and 2 mills worth (*de*) 20 shillings, and 16 acres of meadow. (There is) wood(land) half a league long and 3 furlongs broad. It was worth 20 shillings; now 40 shillings. Turchil held it freely.

From T(urchil) William holds in ERBURGERIE [Harbury] 4 hides. There is land for 9 ploughs. There are 12 villeins with a priest and 5 bordars who have (*habentes*) 4 ploughs. There are 6 acres of meadow. It was and is worth 60 shillings. Ordric held it freely.

From T(urchil) Alwin holds in BADECHITONE [Baginton] 4 hides. There is land for 4 ploughs. In the demesne are 2; and (there are) 7 villeins and 8 bordars with 2 ploughs. There is a mill worth (*de*) 10 shillings and 8 pence, and 27 acres of meadow. It was worth 30 shillings; now 50 shillings. Archil held it freely T.R.E.

From T(urchil) Hadulf holds in BILNEY [Binley]⁵ 2 hides. There is land for 3 ploughs. In the demesne is 1; and (there are) 5 villeins and 7 bordars with 2 ploughs. There are 2 serfs, and a mill worth (*de*) 40 pence, and 8 acres of meadow; wood(land) 4 furlongs long and 2 furlongs broad. It was worth 20 shillings; now 35 shillings. The same man held it who now holds it.

From T(urchil) Robert holds in WESTONE [Weston under Wetherley]⁶ 1½ virgates of land. There is land for half a plough. It is waste (*vasta*). There are 4 acres of meadow. It was worth 6 shillings; now it brings in (*reddit*) nothing. Ulwi held it freely.

From T(urchil) Wlsi holds in BRANDUNE [Brandon] half a hide. There is land for 4 ploughs. There are 10 villeins with 1 serf. They have 3 ploughs. There is a mill worth (*de*) 26 pence, and 16 acres of meadow; wood(land) 4 furlongs long and 2 furlongs broad. It was worth 20 shillings; now 25 shillings. Turchil held it freely.

From T(urchil) R. de Olgi holds in LILLINTONE [Lillington] half a hide. There is land for half a plough, yet 1 (plough) is there with 6 bordars and 1 bondwoman who have another plough. There are 4 acres of meadow. It was worth 10 shillings; now 20 shillings. Bruning held it freely.

From T(urchil) Ermenfrid holds in REDEFORD [Radford Semele]⁷ 5 hides. There is land for 13 ploughs. In the demesne are 3 ploughs and 8 serfs; and (there are) 19 villeins and 8 bordars with 9 ploughs. There is a mill worth (*de*) 6 shillings and 8 pence, and 12 acres of meadow. It was worth 100 shillings and afterwards 40 shillings; now 6 pounds. Eduin held it freely T.R.E. Ermenfrid bought it from Chetelbert by (the king's) leave (*licentia*) and holds it of the king in fee, as the king's writ testifies.

¹ See note 3 on p. 309.

² See note 6 on p. 322. We are not now, I think, in 'Meretone' Hundred, so this cannot be Church Lawford.

³ I do not feel certain of this identification, though I think it is more probable than any other. Robert de Olgi was tenant in chief of a 'Merstone' in Coleshill Hundred, but it would be rather strange for one place in Coleshill Hundred to be inserted among these places, all of which are afterward found in Knightlow Hundred.

⁴ This is the first of eight successive places which all appear afterward in Stoneleigh Leet and were doubtless in the Domesday Hundred of 'Stanlei.'

⁵ See the note (on p. 304) to the previous entry relating to this place. The 3 hides there recorded, with the 2 hides given here, make it a 5 hide place.

⁶ I have no doubt of this, for as we have seen this is a list of places in 'Stanlei' Hundred. This Robert is doubtless the Robert who held another part of this Weston under the Count of Meulan. As to the total hidage see note 7, p. 333, relating to William Fitz Corbucion's holding here.

⁷ I think this is correct, as it was a more important place than Radford juxta Coventry, which also, as Dugdale points out, was doubtless in the hands of the church of Coventry.

A HISTORY OF WARWICKSHIRE

IN HONESBERIE HUNDRET

From T(urchil) Almar holds in ROTELEI [Ratley] 5 hides. There is land for 7 ploughs. In the demesne are 2, and 6 serfs; and (there are) 18 villeins and 7 bordars with 7 ploughs. There are 24 acres of meadow. It was worth 3 pounds, and afterwards 4 pounds; now 100 shillings. Ordric held it freely T.R.E.

From T(urchil) Almar holds in CONTONE [Fenny Compton]¹ 2 hides. There is land for 2 ploughs. In the demesne are 1½ ploughs and 4 serfs; and (there are) 6 villeins and 2 bordars with 1½ ploughs. There are 16 acres of meadow. It was worth 20 shillings; now 40 shillings.

From T(urchil) Roger holds in the same vill 3 hides and 1 virgate of land. There is land for 6 ploughs. In the demesne are 2 with 1 serf; and (there are) 8 villeins and 4 bordars with 4 ploughs. There are 34 (acres)² of meadow. It was worth 40 shillings; now 50 shillings. Ordric and Alwin and Ulsi held it freely T.R.E.

Of the fee of T(urchil) the Count of Meulan (*mellend*) holds MOITONE [Myton].³ There are 2 hides. There is land for 2 ploughs. In the demesne is 1, and 2 serfs; and (there are) 7 villeins and 7 bordars with 3 ploughs. There are 2 mills worth (*de*) 70 shillings, and 8 men paying 32 pence. It was worth 100 shillings, and afterwards 40 shillings; now 6 pounds. Earl Edwin held it.⁴ R. Halebold bought this estate.

¹ See note on p. 311. This, like 'Rotelei,' is in 'Honesberie' Hundred.

² This word is omitted in the text.

³ See note on p. 310. It was in 'Stanlei' Hundred. This entry is suspiciously like the previous one, in which the Count of Meulan appears as holding Muiteone—2 hides (as here), with 1 plough and 2 serfs in demesne (as here), and 3 ploughs out of demesne (as here), and 2 mills worth 70 shillings (as here), and a value of 6 pounds (as here), but in several respects differing from the particulars here recorded. However, it is against the one entry being a repetition of the other that the total hidage recorded in the three entries amounts to 5 hides.

(The differences appear to be too great for duplicate entries. Compare Introduction, p. 296.—J.H.R.)

⁴ It will be remembered that the former entry relating to Myton states that the 2-hide estate in it had been held T.R.E. by Earl Algar. This and the subsequent entry speak of its tenure by Algar's son Earl Edwin.

From T(urchil) Warin holds in WIMENE-STONE [Wormleighton]⁵ 3 hides. There is land for 8 ploughs. In the demesne are 4; and 15 villeins and 4 bordars and 2 Frenchmen⁶ (*franc*'), between them all (*inter omnes*), have 7 ploughs. There are 36 acres of meadow. Of this estate 2 knights hold 1 hide and 1 virgate, and have 2 ploughs with 3 bordars. The whole was worth T.R.E. 4 pounds, and afterwards the same amount; now 10 pounds. Ordric and Ulwin and Ulvric held it freely.

IN STANLEI [STONELEIGH] HUNDRET

From T(urchil) Tonne holds in BERICOTE⁷ 2 hides. There is land for 3 ploughs. In the demesne is 1, and 2 serfs; and (there are) 4 villeins and 3 bordars with 2 ploughs. There is a mill worth (*de*) 4 shillings, and 6 acres of meadow. It was worth 20 shillings; now 40 shillings. Alwin the father of T(urchil) held it.

From T(urchil) the church of S. Mary of Warwic(k) holds 1 hide in MOITONE [Myton].⁸ There is land for 1 plough. There are 3 bordars with 1 plough and 1 bondwoman. There are 4 acres of meadow. It was worth 5 shillings; now 10 shillings. Earl Edwin held it.

From T(urchil) Algar holds 1½ hides.⁹ There is land for 3 ploughs. In the demesne are 2 ploughs and 6 serfs; and (there are) 4 villeins and 4 bordars with 1 plough. There are 12 acres of meadow. It was worth 30 shillings; now 40 shillings. Alvric held it freely.

IN TREMELAU HUNDRET

From T(urchil) Ermenfrid holds 1 hide in FULREI [Fulready] and another in ETENDONE [Eatington]. There is land for 1 plough. It is in the demesne, with 1 bordar. It was worth 10 shillings; now 25 shillings. Almar held it freely T.R.E.

From T(urchil) Alwin holds in CONTONE [Compton Murdak]¹⁰ 3 hides. There is land for 6 ploughs. In the demesne are 2, and 4 serfs; and (there are) 9 villeins and 10 bor-

⁵ This brings us back (for one entry only) to 'Honesberie' Hundred.

⁶ This rendering is probable, but not certain.

⁷ Now only represented by Bericote Wood in Ashow.

⁸ See the last note but two.

⁹ The place is not mentioned.

¹⁰ Now Compton Verney. See note on p. 311.

THE HOLDERS OF LANDS

dars with 5 ploughs. There are 30 acres of meadow. It was and is worth 4 pounds.

From T(urchil) the abbot of Abendone [Abingdon¹] holds 1 hide in CESTRETON [Little Chesterton].² There is land for 7 ploughs and (there are) 2 serfs; and (there are) 10 villeins and 8 bordars with 6 ploughs. There are 16 acres of meadow. It was worth 60 shillings; now 100 shillings. Alwol held it.

From T(urchil) the same abbot¹ holds in CESTRETON [Little Chesterton]² 1 hide in pledge (*vadimonium*). There is land for 2 ploughs. There are 5 English knights (*militēs angli*) who have (*habentes*) 4½ ploughs. There are 8 acres of meadow. It was worth 20 shillings; now 50 shillings. Alnod, Brictuin and Turi held it freely T.R.E.

IN FERNECUMBE HUNDRET

From T(urchil) William³ holds in COCTUNE [Coughton] 4 hides. There is land for 6 ploughs. There are 2 free men and 7 bordars and 4 serfs with 3 ploughs. There is a mill worth (*de*) 32 pence, and in Warwic(k) 1 house paying a rent of 8 pence. There are 10 acres of meadow; wood(land) 6 furlongs long and 4 furlongs broad. Feed (*Pasc'*) for 50 swine. It was worth 40 shillings, and afterwards 20 shillings; now 50 shillings. Untoni' held it freely.

From T(urchil) R. de Olgi holds in ETONE [Nuneaton]⁴ 3 hides. There is land for 5 ploughs. In the demesne are 3 ploughs and 5 serfs; and (there are) 9 villeins and 8 bordars with 8 ploughs. There are 5 acres of meadow; wood(land) 1 league in length and breadth. It was worth 40 shillings; now 4 pounds. Alwin held it freely T.R.E.

¹ See Introduction, p. 276.

² In a subsequent entry Chesterton is rubricated as in 'Tremelau' Hundred. It seems clear from Dugdale that these two entries relate to Little Chesterton now called Kingston.

³ This was probably William Fitz Corbucion, as his heir gave the church here to Studley Priory. —J.H.R.

⁴ I suppose this identification is correct; but there seems to be no further trace of R. de Olgi's interest. It may seem curious that for this one entry we go back to Coleshill Hundred, but on the other hand this is the end of the list of Turchil's estates, and an omitted entry may have been here inserted. I suppose it to have been only a coincidence that in the Oxfordshire Domesday R. de Olgi appears as holding an estate in 'Etone' (Water Eaton).

fo. 242

XVIII. THE LAND OF HUGH DE GRENTEMAISNIL

Hugh de Grentemaisnil holds of the king, in charge (*in custodia*) 1 hide and the sixth part of a hide in MORTONE [Hillmorton] and in WILEBEC [Willoughby].⁵ There is land for 2 ploughs. There are 5 villeins with 1 bordar who have (*habentes*) 2 ploughs. It was worth 20 shillings; now 30 shillings. Grinchet and Suain held it.

IN TREMELAU HUNDRET

The same Hugh holds in MERSETONE [Butler's Marston]⁶ 10 hides. There is land for 10 ploughs. In the demesne are 3, and 6 serfs and 2 bondwomen; and 30 villeins and 2 bordars with a priest have 7 ploughs. There are 2 mills worth (*de*) 11 shillings; and 2 Frenchmen (*francig'*) are there, and 2 burgesses in Warwic(k) pay a rent of 16 pence. It was worth 10 pounds; now 15 pounds. Baldwin held it freely.

The same H(ugh) holds in PILARDETONE [Pillerton Hersey]⁷ 10 hides. There is land for 10 ploughs. In the demesne are 3, and 8 serfs and 4 bondwomen; and (there are) 23 villeins with a priest and 1 knight and 5 bordars who have (*habentes*) 9 ploughs. There is a mill worth (*de*) 5 shillings. Wood(land) 1 league long and 1 broad. And in Warwic(k) 1 messuage paying a rent of 4 pence. And 20 acres of meadow. It was worth 10 pounds; now 17 pounds. Baldeuin held it freely.

The same H(ugh) holds in MIDELTONE [Middleton]⁸ 4 hides. There is land for 4 ploughs. In the demesne are 1½ ploughs and 3 serfs; and 12 villeins with a priest and 5 bordars have 2½ ploughs. There is a mill worth (*de*) 20 shillings, and 6 acres of meadow. It

⁵ These two places being found subsequently in Marton Leet were doubtless in the Domesday Hundred of 'Meretone.'

⁶ Butler's Marston, formerly Marston Butler, is close to Pillerton, and no other 'Meretone' could be in 'Tremelau' Hundred, which was a collection of places in the north-west part of Kineton Hundred. Considering its large hidage, it must have included more than the modern place.

⁷ Otherwise Nether Pillerton. This identification is no doubt correct, for the separate history of Pillerton Priors can clearly be traced. See note on p. 308. No doubt also this Pillerton, like the other, was in 'Tremelau' Hundred.

⁸ I suppose this must be Middleton near Sutton Coldfield, which however is in Hemlingford Hundred, and was doubtless in the Domesday Hundred of Coleshill.

A HISTORY OF WARWICKSHIRE

was worth 4 pounds; now 6 pounds. Pallin held it freely T.R.E.

IN FEXHOLE HUNDRET

The same H(ugh) holds OCTESSELVE [Ox-hill]. There are 10 hides. There is land for 8 ploughs. In the demesne are 3, and 11 serfs; and (there are) 20 villeins and 11 bordars with 7 ploughs. There is a mill worth (*de*) 16 pence, and 20 acres of meadow. It was worth 10 pounds; now 11 pounds. Toli held it freely T.R.E.

The same H(ugh) holds in SERUELEI [Shrewley]¹ 3 hides. There is land for 12 ploughs. In the demesne is 1, and 3 serfs; and (there are) 8 villeins and 6 bordars with 2½ ploughs. There are 10 acres of meadow. Wood(land) 1 league long and half (a league) broad. It was worth 20 shillings; now 30 shillings. Toli held it freely.

The same H(ugh) holds in LAPEFORDE [Lapworth]² half a hide. There is land for 1 plough. There are 3 villeins. Wood(land) 2 leagues long and 1 league broad. It was worth 10 shillings; now 20 shillings. Baldeuin held it freely.³

From the same Hugh, Hubert holds 2½ hides in TORLAVESTONE [Thurlaston].⁴ There is land for 7 ploughs. In the demesne are 2; and (there are) 9 villeins and 4 bordars with 3 ploughs. There are 40 acres of meadow, and 1 furlong of pasture. It was worth 40 shillings; now 60 shillings. Baldeuin held it.

¹ Shrewley being afterward in Barlichway Hundred but not in Pathlow Liberty was probably in the Domesday Hundred of 'Fernecombe.' But as this seems to be a list of places in 'Fexhole' Hundred, and as Shrewley is not far from the Kinton Hundred 'nook' mentioned in the next note, it is just possible that it also was in 'Fexhole' Hundred. (Mr. Walker considers that it was.)

² Lapworth, Packwood and Tanworth, forming what should be the northern point of Barlichway Hundred, are all in Kinton Hundred. Dugdale states that Tanworth was a member of Brailes. Brailes, as we have seen (p. 301), was in 'Fexhole' Hundred. Probably therefore all this 'nook' was in 'Fexhole' Hundred, which Hundred was afterwards absorbed by that of Kinton.

³ This concludes the list of Hugh's demesne manors, and there is the usual slight gap between this entry and the next, which begins the list of his subinfeudated manors.

⁴ These 2½ hides, together with the 2½ hides previously recorded, make Thurlaston a 5-hide place. As already stated, it was in 'Meretone' Hundred.

From H(ugh), William holds 3 virgates of land in LOEBROC [Ladbroke].⁵ There is land for 1 plough. There a priest and 1 villein with 2 bordars have half a plough, and (there is) a mill worth (*de*) 3 shillings, and 3 acres of meadow. It was worth 5 shillings; now 10 shillings.

From H(ugh), Robert holds 1 hide in ETEDONE [Eatington].⁶ There is land for 1 plough. There 1 villein with 1 bordar has half a plough. It was and is worth 10 shillings. Baldeuin held it.

From H(ugh), the abbey of S. Evroul (*Ebrulfus*) holds 6 hides and 1 virgate of land in PILARDETUNE [Pillerton Priors].⁶ There is land for 10 ploughs. In the demesne are 3; and 13 villeins and 23 bordars with 1 Frenchman (*francigen*) and 3 thegns have 8 ploughs. There are 12 acres of meadow. It was worth 6 pounds; now 10 pounds. Four thegns held it freely T.R.E.

From H(ugh), Roger holds (Q)UATERCOTE [Whatcote],⁷ 5 hides. There is land for 5 ploughs. In the demesne are 4; and 7 villeins with a priest and 19 bordars have 3 ploughs. It was worth 100 shillings; now 7 pounds. Toli held it freely.

From H(ugh), the same Roger holds 3 hides in ROCHINTONE [Rowington].⁸ There is land for 8 ploughs. There 27 villeins with a priest and 24 bordars have 9 ploughs. (There is) wood(land) 1½ leagues long and 8 furlongs broad. It was and is worth 100 shillings. Baldeuin held it freely T.R.E.

From H(ugh), Osbern holds 5 hides in BILLESLEY [Billesley].⁸ There is land for 8 ploughs. In the demesne are 3 ploughs and 8 serfs; and (there are) 8 villeins with a priest and 9 bordars who have (*habentes*) 4

⁵ In 'Meretone' Hundred, as mentioned before.

⁶ In 'Tremelau' Hundred, as rubricated in the previous entry on p. 324.

⁷ Whatcote, like its neighbour Pillerton, is afterward found in Kinton Hundred, and may well have been in the Domesday Hundred of 'Tremelau.' (Mr. Walker, however, holds that it was in 'Fexhole' Hundred.)

⁸ Rowington and Billesley, being afterwards found in Barlichway Hundred but not in Pathlow Liberty, were probably in the Domesday Hundred of 'Fernecombe.'

(The parish of Rowington lies between the parishes of Shrewley and Lapworth. I am therefore strongly inclined to think that it, as they, was in 'Fexhole' Hundred.—B.W.)

THE HOLDERS OF LANDS

ploughs. In Warwic(k) (there is) 1 house worth (*de*) 8 pence. It was and is worth 100 shillings. Baldeuin held it.

From H(ugh), Hugh son of Constantius holds 1 virgate of land in LOCHESLEI [Loxley].¹ There is land for half a plough. There is 1 villein. It was and is worth 5 shillings. Manegot held it freely.

IN COLESHELLE [COLESHILL] HUNDRET

From H(ugh), Walter holds half a hide in WITACRE [Whitacre].² There is land for half a plough. There is 1 villein ploughing with 2 oxen.³ It was and is worth 2 shillings. Baldeuin held it.

XIX. THE LAND OF HENRY DE FERIER[ES]

IN COLESHELLE [COLESHILL] HUNDRET

Henry de Fereires holds 5½ hides in GREN-DONE [Grendon], and Turstin from him. There is land for 16 ploughs. There are 24 villeins and 16 bordars with 8 ploughs. There is a mill worth (*de*) 5 shillings, and 36 acres of meadow; wood(land) 1½ leagues long, and 1 league broad. It was and is worth 40 shillings. Siward Barn⁴ held it.

IN BOMELAU HUNDRET

From H(enry), Ralf holds 4 hides in BORTONE [Burton Hastings].⁵ There is land for 8 ploughs. In the demesne are 2; and 13 villeins with a priest and 7 bordars have 6 ploughs. There are 2 mills worth (*de*) 7 shillings and 8 pence. It was worth 4 pounds; now 40 shillings. Siward⁴ held it.

IN STANLEI [STONELEIGH] HUNDRET

From H(enry), Wazelin holds 2 hides in ERBURBERIE [Harbury].⁶ There is land for 5 ploughs. In the demesne are 2, and 2 serfs; and (there are) 4 villeins with 1 plough. It was worth 40 shillings; now 4 pounds. Siward⁴ held it.

¹ Loxley, as mentioned in a previous note, was probably in 'Patelau' Hundred.

² Probably, as mentioned in a previous note, Over Whitacre.

³ i.e. a quarter of a plough-team.

⁴ See Introduction, p. 282.

⁵ Burton Hastings is in the northern corner of Knightlow Hundred, where other places belonging to 'Bomelau' Hundred are found. It appears in subsequent history as held under the family of Ferrers.

⁶ See the former note (p. 310, note 7).

IN TREMELAU HUNDRET

From H(enry), Saswalo⁷ holds 17 hides in ETENDONE [Eatington]. There is land for 12 ploughs. In the demesne are 4 ploughs and 10 serfs; and 32 villeins with a priest and 25 bordars and 1 knight (*milite*) and 2 thegns (*tainis*) have 16½ ploughs. There is a mill worth (*de*) 18 shillings, and 30 acres of meadow. It was worth 6 pounds, and afterwards 4 pounds; now 20 pounds.

From H(enry), Wazelin holds half a hide in CESTEDONE [Chesterton].⁸ There is land for 1½ ploughs. There is 1 plough with 1 ox-man (*bovarius*) and 1 acre of meadow. It was and is worth 10 shillings.

From H(enry), Nigel⁹ holds 2½ hides in ALDULVESTREU [Austrey].¹⁰ There is land for 2 ploughs. In the demesne is 1; and 7 villeins and 3 bordars have 2 ploughs. It was and is worth 20 shillings.

XX. THE LAND OF ROGER DE IVERI

IN STANLEI [STONELEIGH] HUNDRET

Roger de Ivri holds of the king, as it is said (*ut dicitur*),¹¹ 5 hides¹² in CUBINTONE [Cubbington]. There is land for 4 ploughs. In the demesne are 2, and 3 serfs; and (there are) 2 villeins and 2 bordars with 1 plough. There are 15 acres of meadow. It was and is worth 40 shillings. Turbern held it freely T.R.E. This is of the fee of the Bishop of Bayeux.¹³

XXI. THE LAND OF ROBERT DE OILGI¹⁴

IN COLESHELLE [COLESHILL] HUNDRET

Robert de Oilgi holds 2 hides in MERSTONE

⁷ See Introduction, p. 282.

⁸ Chesterton doubtless; for that place is a subsequent entry rubricated as in 'Tremelau' Hundred. For this reason therefore 'Cestedone' follows 'Etendone.'

⁹ See Introduction, p. 280.

¹⁰ This was doubtless in 'Coleshelle' Hundred, being afterward in the Hundred of Hemlingford.

¹¹ These two words are an interlineation.

¹² These 5 hides, together with the 2 and 3 hides already recorded, make Cubbington a 10-hide place.

¹³ See Introduction, p. 279. In the Bucks Domesday (p. 144) Robert (de) Olgi and Roger (de) Ivri hold 'Stou' of the Bishop of Bayeux.

¹⁴ This entry stands at the foot of a page, and is separated by a considerable gap from the previous one. Probably this was done for the sake of beginning the important fief of Robert de Statford at the top of a new page.

A HISTORY OF WARWICKSHIRE

[? Lea-Marston]¹ and Robert the huntsman (*venator*)² from him. There is land for 2 ploughs. In the demesne is 1, and 2 serfs; and 4 villeins have 2 ploughs. There are 6 acres of meadow; wood(land) 4 furlongs long, and 1 broad. It was worth 10 shillings; now 20 shillings. Alvrice held it freely T.R.E. Robert bought this estate from him by leave (*licentia*) of King William.

fo. 242b

XXII. THE LAND OF ROBERT DE STATFORD³

IN BOMELAU HUNDRET

Robert de Stadford holds of the king 7 hides in WARA [? Churchover].⁴ There is land for 12 ploughs. In the demesne are 4; and 14 villeins and 5 bordars have 5 ploughs. There are a mill (*de*) worth 2 shillings, and 4 acres of meadow. It was worth 20 shillings; now 100 shillings. Waga held it freely T.R.E.

The same Robert holds 7 hides in UOLWARDE [Wolford].⁵ There is land for 10 ploughs. In the demesne are 6 and 4 serfs; and 8 villeins and 8 bordars, with a priest, have 6 ploughs. There is a mill worth (*de*) 20 pence. It was worth 20 shillings; now 100 shillings. Waga held it freely.

The same R(obert) holds 5 hides in BURDINTONE [Burmington].⁷ There is land for 8 ploughs. In the demesne are 2; and (there are) 12 villeins and 8 bordars with 6 ploughs. There is a mill worth (*de*) 10 shillings, and 12 acres of meadow. It was worth 60 shillings; now 100 shillings. Godwin held it freely.⁸

¹ See notes on pp. 319, 323.

² This word is an interlineation.

³ The numerous manors held by Robert de Stafford in Warwickshire require to be compared for identification with (1) the detailed return of his knights' fees in 1166, which is found in *The Red Book of the Exchequer*, pp. 264-8; (2) the list of his Warwickshire fees at a later date in *The Red Book*, pp. 612-3; (3) the valuable list of his Warwickshire fees and their tenants in *Testa de Nevill*, p. 96.—J.H.R.

⁴ See note on p. 309. (This 'Wara' is 'Wav Rog[er]' in the *Testa*.—J.H.R.)

⁵ Probably Great Wolford; see note on p. 318. It was probably in Barcheston Hundred. (Both Great and Little Wolford appear in the *Testa* as held of Stafford.—J.H.R.)

⁶ No number stated.

⁷ Burmington appears in later records as part of the Barony of Stafford. It lies between Wolford and Barcheston, and was doubtless in Barcheston Hundred.

⁸ This last sentence is written in the margin.

IN FEXHOLE HUNDRET

The same R(obert) holds TIHESHOCH [Tysoe]. There are 23 hides. There is land for 32 ploughs. In the demesne are 11, and 9 serfs; and 53 villeins with a priest and 28 bordars have 23 ploughs. There are 16 acres of meadow; and in Warwic(k) 3 houses paying 18 pence rent. It was worth 20 pounds; now 30 pounds. Waga held it freely.

The same R(obert) holds 5 hides in ETELINCOTE [Idlicote].⁹ There is land for 9 ploughs. In the demesne are 3 ploughs and 7 serfs; and (there are) 26 villeins and 3 bordars with 8 ploughs. It was worth 4 pounds; now 8 pounds. Auegrin and Ordec held it freely.

IN FERNECUMBE HUNDRED

The same R(obert) holds 1 hide in HOLEHALE [Ullenhall].¹⁰ There is land for 15 ploughs. There are 17 villeins and 11 bordars with 6 ploughs. Wood(land) half a league long and 1 furlong broad. It was and is worth 3 pounds. Waga held it.

The same R(obert) holds in OFFEWORD [Offord in Wootton Wawen]¹¹ 5 hides. There is land for 6 ploughs. There are 3½ ploughs with 3 serfs and 10 bordars. There is a mill worth (*de*) 4 shillings. Wood(land) 1 league long and half a league broad. It was worth 3 pounds; now 4 pounds. Waga held it freely T.R.E.

The same R(obert) holds in EDRICESTONE [Edstone in Wootton Wawen]¹² 5 hides.

⁹ This appears in later records as in the Barony of Stafford, and being close to Tysoe was probably in 'Fexhole' Hundred.

¹⁰ There can be little doubt of this identification, but Ullenhall was afterward accounted in Pathlow Liberty.

¹¹ Offord appearing subsequently in Barlichway Hundred, not in Pathlow Liberty, was probably in the Domesday Hundred of 'Fernecombe.' Its locality was only marked by a mill in Dugdale's time, and the name has now disappeared.

¹² This seems clear. It appears as 'Edristone' in the Subsidy Roll of 1 Edward III. 'Edricestone' held by the Bishop of Bayeux was undoubtedly Atherstone-on-Stour, which was in Kineton Hundred. In his account of Edstone Dugdale mistakenly speaks of the tenure of the de Ruperis family, who really had to do with Atherstone, as he himself had shown in his account of that parish. The two places are similarly confused in *The Red Book of the Exchequer*, p. 1164. Edstone, of which the name is now only preserved in Edstone Hall, a country seat, is found in Barlichway Hun-

THE HOLDERS OF LANDS

There is land for 5 ploughs. In the demesne are 2, and 2 serfs; and (there are) 4 villeins and 6 bordars with 1 plough, and in Warwick(k) 1 house paying a rent of 5 pence. Wood(land) half a league long, and half a furlong broad. It is worth 3 pounds. Ailric and Ulwin held it freely.

IN PATELAU [PATHLOW] HUNDRET

The same R(obert) holds 7 hides in WOTONE [Wootton Wawen].¹ There is land for 9 ploughs. There are 23 villeins with a priest and 22 bordars who have (*habentes*) 6 ploughs. There are 2 mills worth (*de*) 11 shillings and 8 sticks of eels. Wood(land) 2 leagues long and 1 broad. It is worth 4 pounds. Waga² held it freely.

[Robert the huntsman holds of him in BRANCOTE 1 hide. There is land for 2 ploughs which is (*est*) there with 1 villein. (It is) worth 10 shillings.³]

IN STANLEI [STONELEIGH] HUNDRET

From the same Robert, Alvríc holds 5 hides in BUBENHALLE [Bubbenhall]. There is land for 5 ploughs. In the demesne are 1½ ploughs with 1 serf; and (there are) 6 villeins and 2 bordars with 2½ ploughs. There is a mill worth (*de*) 4 shillings. Wood(land) 2 furlongs long, and the same in breadth. It is worth 50 shillings. The same (Alvríc) held it freely.

[IN BEDRICESTONE [BARCHESTON] HUNDRET]

From R(obert), Grim holds half a hide in BERTONE [Barton on the Heath]. There is

dred but not in Pathlow Liberty, and therefore was probably in the Domesday Hundred of 'Ferne-cumbe.'

¹ It may be only a coincidence, but the hidage of these 6 estates of Waga, which Robert de Stafford kept in his own hands amounts exactly to 55.

² See Introduction, p. 284.

³ This entry is inserted in the margin at this point, and is apparently intended to come between Robert's demesne manors (which end with Wootton Wawen) and those held of him by his tenants. Mr. Carter holds that it should be referred to the fief of Robert 'Dispensator,' and that it relates to Bramcote in Polesworth. But 'Bramcote' is entered as ½ fee among Stafford's Warwickshire manors in *The Red Book of the Exchequer*, p. 613, which is decisive. There is nothing, however, to show which Bramcote is meant, and no Bramcote is mentioned in the *Testa de Nevill*, which is therefore no help. As Robert the huntsman was a tenant only at Robert d'Oilli's 'Merstone' and this Bramcote, we should expect those manors to adjoin. One of the Bramcotes does adjoin Marston Jabbett, but this Marston, so far as we know, was all held by the Earls of Warwick and their Domesday predecessor.—J.H.R.

land for 1 plough. It is there, in the demesne, and 5 serfs; and (there are) 2 villeins and 3 bordars. It was and is worth 20 shillings. This estate (*terra*) is in Bedricestone Hundret.⁴

From R(obert), Ordwi holds 2 hides in WORWARDE [Wolford].⁵ There is land for 6 ploughs. In the demesne are 2; and (there are) 4 villeins and 4 bordars with 1 plough. It is worth 50 shillings. Alwi held it freely.

From R(obert), Alwin holds 2 hides in the same vill.⁶ There is land for 2 ploughs. In the demesne is 1, with 1 serf; and (there are) 4 villeins and 3 bordars with 1 plough. It was worth 20 shillings; now 30 shillings. Alwin held it freely.

From R(obert), Iwein holds 1½ hides in ULLAVINTONE [Willington]. There is land for 2 ploughs. In the demesne is 1, and 2 serfs, with 1 villein and 1 bordar. It was and is worth 20 shillings. Dodo and Leuric held it freely.

From R(obert), Brion holds 2 hides in DICFORDE [Ditchford Frary].⁶ There is land for 7 ploughs. In the demesne are 2, and 9 serfs; and (there) are 8 villeins and 3 bordars with 3 ploughs. There is a mill worth (*de*) 68 pence. It was worth 40 shillings; now 4 pounds. Leuric held it freely T.R.E.

From R(obert), Warin holds 5 hides in LITTLE CONTONE [Compton Scorfen].⁷ There is land for 6 ploughs. In the demesne are 3 ploughs and 8 serfs; and (there are) 8 villeins and 2 bordars with 6 ploughs. There are 6 acres of meadow. It was worth 60 shillings; now 100 shillings. Brictric held it freely.

From R(obert), Alwin holds 1 hide in CONTONE [? Compton Wyniates].⁷ There is land

⁴ The words 'In Bedricestone H'd' are rubricated as a hundredal heading.—J.H.R.

⁵ See note on p. 318.

⁶ So called from Frary de Dicheford, who held it under Brion's heirs the Standons.—J.H.R.

⁷ I take these five places (Wolford, Willington, Ditchford, Compton Scorfen and Compton Wyniates) following after Barton to have been, like Barton, in Barcheston Hundret. They are all near together, in the neighbourhood of Barcheston. It must be remembered, however, that Mr. Round considers the identification of Compton Wyniates to be against all the record evidence.

(The only indication of Compton Scorfen on the ordnance maps is a district called Compton Scorpion Farms.—B.W.)

A HISTORY OF WARWICKSHIRE

for 1 plough. There are 2 bordars. It was and is worth 10 shillings. Two brothers held it freely.

IN FERNECUMBE HUNDRET

From R(ober)t, Hugh holds 2 hides in MORTONE [Morton Bagot].¹ There is land for 4 ploughs. In the demesne is 1, and 2 serfs; and (there are) 5 villeins and 5 bordars with 2 ploughs. There is meadow 3 furlongs long and 6 perches broad. Wood(land) half a league long and 1 furlong broad. It was worth 30 shillings; now 50 shillings. Grimulf held it freely.

IN BERRICESTONE [BARCHESTON] HUNDRET

From R(ober)t, Ailric holds 1 hide in EDELMITONE [? Tidmington].² There is land for 1 plough. It is there in the demesne, with 2 serfs and 1 villein. It was worth 10 shillings; now 15 shillings. Ailric held it freely.

IN PATELAU [PATHLOW] HUNDRET

From R(ober)t, Hugh holds 1 hide and 1 virgate of land in CLIFORDE [Ruin Clifford].³ There is land for 2 ploughs. In the demesne is 1, and 2 serfs; and (there are) 3 villeins and 3 bordars with 1 plough. It was and is worth 30 shillings. Saward held it freely T.R.E.

From R(ober)t, William holds 5 hides in

¹ I have little doubt of this identification, for there is no other Morton in Barlichway Hundred, in which Hundred 'Fernecombe' Hundred became included. Dugdale does not take notice of this entry, but considers that the 'Mortone' four entries further on was Morton Bagot.

² Dugdale regards this as Ilmington (which is 'Ilmedon' or 'Ilmedone' in Domesday), but I have little doubt that my identification is correct. For the connecting form 'Tidelmitone' see p. 83 of the edition of Habington's MSS., published by the Worcestershire Historical Society. No connection of the Staffords with Ilmington is to be traced. Tidmington was part of a Worcestershire island in Warwickshire and is still included in Worcestershire.

(In Domesday Tidmington appears as 'Tidelmintun,' a 'member' of Tredington in Worcestershire, and is assessed with it at 23 hides, but only the stream divided it from Warwickshire and it is barely two miles from Barcheston. It is possible therefore that this entry refers to a portion of the parish which was surveyed under Warwickshire.—J.H.R.)

³ This was, it would appear from Dugdale's map, a small hamlet in Warwickshire separated from the Gloucestershire Clifford by the river Stour.

CLOTONE [Clopton].⁴ There is land for 3 ploughs. In the demesne is 1, with 1 serf; and (there are) 7 villeins and 3 bordars with 2 ploughs. It was and is worth 60 shillings. Odo and Aileva held it freely T.R.E.

From R(ober)t, Hervey holds 1 hide in MORTONE [? Norton-Lindsey].⁵ There is land for 2 ploughs. Two however are in the demesne, and 4 serfs; and (there are) 5 villeins and 2 bordars with 2 ploughs. It was worth 20 shillings; now 40 shillings. Waga held it freely T.R.E.

From R(ober)t, Urfer holds 1 hide and 1 virgate and the third part of 1 virgate in ULWARDITONE [Wolverton].⁶ There is land for 2 ploughs. In the demesne is 1, with 1 serf and 2 villeins and (there is) 1 furlong of meadow. It was worth 10 shillings; now 20 shillings. Simund the Dane⁷ held it freely T.R.E.

From R(ober)t, Dreu (*Drogo*) holds 3 hides in WITELEIA [Whitley juxta Henley].⁸ There is land for 6 ploughs. In the demesne is 1, and 2 serfs; and (there are) 3 villeins and 6 bordars with 2 ploughs. There is a mill worth (*de*) 2 shillings, and 10 acres of meadow; wood(land) half a league long and 2 furlongs broad. It was worth 20 shillings; now 40 shillings. Three brothers held it.

From R(ober)t, Ludichel holds 1½ hides in

⁴ Clopton, like (Ruin) Clifford, subsequently appears in Pathlow Liberty.

⁵ I suggest this identification for several reasons, though Dugdale, as mentioned four notes back, identifies this place as Morton Bagot. But that Norton should be omitted from Domesday Book seems unlikely, and we should expect to find it (as here) next to Wolverton, which is contiguous, and in the same Barony. The fact that Waga was tenant T.R.E. both here and at Wootton Wawen may be connected with the former parochial dependence of Norton on Wootton Wawen. Both Morton and Norton appear in the Subsidy Rolls as in Barlichway Hundred but not in Pathlow Liberty. We should expect therefore to find them in the Domesday Hundred of 'Fernecombe.'

(It is certain from the *Red Book* and the *Testa de Nevill* that Langley and 'Norton' were held under Stafford by Curli, but there seems to be some confusion between Norton Limesi [now Lindsey] and Norton Curli, owing to Curli holding in both.—J.H.R.)

⁶ See p. 331, note 2.

⁷ In Heming's Cartulary (ed. Hearne), p. 265, he is spoken of as a knight of Earl Leofric, by whose influence he extorted land from the church of Worcester.—J.H.R.

THE HOLDERS OF LANDS

LONGELEI [Langley¹]. There is land for 2 ploughs. In the demesne are 2, with 1 serf; and (there are) 3 villeins and 4 bordars with 2 ploughs. There are 12 acres of meadow; wood(land) 1 league long and half a league broad. It was worth 30 shillings; now 40 shillings. Ernui held it freely.

From R(ober)t, Ailric holds 1 hide in BURLEI [Bearley].² There is land for 1 plough. There is 1 villein and 1 serf, and 1 acre of meadow. It was worth 20 shillings; now 10 shillings. The same (Ailric) held it.

Leuing holds in OFFEWORDE [Offord³ in Wootton Wawen]⁴ 1 carucate of inland⁵ and there has 1 plough. It was and is worth 10 shillings.

XXIII. THE LAND OF ROBERT DISPENSER⁴

IN COLESHELLE [COLESHILL] HUNDRET

Robert Dispenser (*Dispensator*) holds of the king 9 hides in MERSTON [? in Lea Marston].⁵ There is land for 8 ploughs. In the demesne are 2, and 2 serfs; and (there are) 24 villeins with 6 ploughs. There is a mill worth (*de*) 10 shillings, and 6 acres of meadow. It was and is worth 4 pounds. Ailmar held it freely T.R.E. In like wise (he held) this estate following.

The same Robert holds half a hide in FILINGELEI [Fillongley].⁶ There is land for 2 ploughs. There are 4 villeins with a priest and 1 bordar who have (*habentes*) 2 ploughs. There is 1 acre of meadow;

¹ See next note.

² As none of these six places following Clopton appears afterward in Pathlow Liberty, though all were in Barlichway Hundred, I suppose that they were in the Domesday Hundred of 'Fernecumbe.'

³ This entry appears at the end of Robert de Stafford's barony, but does not state that Leuing held of him. A Leuing was a king's thegn in Staffordshire. This entry, and the subsequent entry relating to Lighthorne contain the only two references to 'inland' in the Domesday of Warwickshire.

⁴ 'Dispensatoris.'

⁵ I have little doubt that this 'Merston' and the 'Merstone' held by Robert de Oilgi were the same place and were Lea-Marston. The arguments in favour of this are almost too intricate to be stated in a footnote. The Marmions were afterwards lords of Lea-Marston, and it is usual to find them in possession of Robert Dispenser's lands.

⁶ This is obvious. Moreover here also the Marmions in later times had an estate.

wood(land) 2 leagues long and 1 league broad. It was worth 10 shillings; now 20 shillings.

The same R(ober)t holds 1 hide in LETH [? Lea-Marston].⁷ There is land for 1 plough. There is 1 knight with 1 plough; and (there are) 4 villeins and 1 bordar and 2 serfs with 1 plough. There are 2 acres of meadow. It was worth 10 shillings, and is worth 15 shillings. Alwin held it freely.

The same R(ober)t holds 10 hides in BERTANESTONE [Barston].⁸ There is land for 10 ploughs. There are 6 free men and 9 villeins and 4 bordars with 10 ploughs. There is a mill worth (*de*) 4 shillings. Wood(land) half a league long and 3 furlongs broad. It was and is worth 100 shillings. Ailmar held it freely, and with the leave (*licentia*) of King William, sold it to Alwin the sheriff.

XXIV. THE LAND OF ROBERT DE VECI

IN BOMELAU HUNDRET

Robert de Veci holds of the king 5 hides and a half in ULVEIA [Wolvey]. There is land for 8 ploughs. In the demesne are 2, and 4 serfs; and 15 villeins with a priest and 2 bordars have 7 ploughs. There are 50 acres of meadow. Pasture half a league in length and breadth. It was worth (? 3)⁹ pounds; now 50 shillings. Alric son of Meriet held it freely T.R.E.

The same Robert holds 3 virgates of land in WITCORE [(? Nether) Whitacre].¹⁰ There is land for 1 plough, and it is there, with 1 villein and 2 acres of meadow. It was worth 10 shillings; now 2 shillings. Ailric held it freely.¹¹

⁷ It had occurred to me that this might be Blithe and that the initial B had somehow dropped out. But Blithe was not even important enough to appear in the Subsidy Roll of 1 Edward III., and moreover Dugdale shows that it was held from the Mowbrays, whereas Lea, like Marston, was held under the Marmions, the successors of Robert Dispenser.

⁸ This, as already stated (see p. 320), is apparently a duplicate of the entry relating to 'Bertanestone' under Turchil's fee. But this is not certain, and Mr. Round doubts it.

⁹ Here is a smudge of ink in the original. There are certainly two strokes and may be three.

¹⁰ See the note relating to the entry of Witcore in Turchil's fee, p. 319.

¹¹ This entry at the foot of the column, in a smaller handwriting and lower than the foot of the other column, appears to be an afterthought.

A HISTORY OF WARWICKSHIRE

fo. 243

XXV. THE LAND OF RALF DE MORTEMER

IN BOMELAU HUNDRET

Ralf de Mortemer holds STRATONE [Stretton Baskerville], and Roger of him. There are 3 hides. There is land for 6 ploughs. In the demesne are 2; and (there are) 8 villeins and 4 bordars with 4 ploughs. There are 5 acres of meadow. It was worth 40 shillings; now 30 shillings. Edric held it freely.

XXVI. THE LAND OF RALF DE LIMESI

Ralf de Limesi holds of the king in BUDEBROC [Budbrooke]¹ 5 hides. There is land for 12 ploughs. In the demesne are 3 ploughs and 7 serfs; and (there are) 22 villeins and 13 bordars with 6 ploughs. There is a mill worth (de) 2 shillings and 30 acres of meadow. Wood(land) 1 league long and 3 furlongs broad. In Warwic(k) 7 houses yield (*reddunt*) 7 shillings per annum. It was and is worth 8 pounds. Earl Eduin held it.

XXVII. THE LAND OF WILLIAM SON OF ANSCULF

William son of Ansculf holds of the king ESTONE [Aston juxta Birmingham],² and Godmund of him. There are 8 hides. There is land for 20 ploughs. In the demesne is land for 6 ploughs, but the ploughs are not there. There 30 villeins with a priest and 1 serf and 12 bordars have 18 ploughs. There is a mill worth (*de*) 3 shillings. Wood(land) 3 leagues long and half a league broad. It was worth 4 pounds; now 100 shillings. Earl Eduin held it.

From W(illiam), Stannechetel holds 1 hide in WITONE [Witton in Aston]. There is land for 4 ploughs. In the demesne is 1, and 2 serfs; and (there are) 1 villein and 2 bordars with 2 ploughs. It was worth 10 shillings; now 20. The same S(tannechetel) held it freely.

From W(illiam), Peter holds 3 hides in HARDINTONE [Erdington]. There is land for 6

¹ The words 'In Budebroc' are written as if it were the name of a hundred. Budbrooke, appearing afterward in Barlichway Hundred but not in Pathlow Liberty, was doubtless in the Domesday Hundred of 'Fernecumbe.'

² Aston and all William's other Warwickshire estates here recorded appear afterward in Hemlingford Hundred, and were therefore doubtless in the Domesday Hundred of 'Coleshelle.'

ploughs. In the demesne is 1, and 2 serfs; and (there are) 9 villeins and 3 bordars with 4 ploughs. There is a mill worth (*de*) 3 shillings, and 5 acres of meadow. Wood(land) 1 league long and a half broad, but it is set apart for the king (*in defenso regis est*). It was worth 20 shillings; now 30. Earl Eduin held it.

From W(illiam), Dreu (*Drogo*) holds 2 hides in CELBOLDESTONE [Edgbaston].³ There is land for 4 ploughs. In the demesne are 1½ ploughs; and (there are) 3 villeins and 7 bordars with 5 ploughs. Wood(land) 3 furlongs broad and half a league long. It was worth 20 shillings; now 30. Aschi and Alwi held it freely.

From W(illiam), Ricoard holds 4 hides in BERMINGEHAM [Birmingham]. There is land for 6 ploughs. In the demesne is 1, and (there are) 5 villeins and 4 bordars with 2 ploughs. Wood(land) half a league long and 2 furlongs broad. It was and is worth 20 shillings. Ulwin held it freely T.R.E.

IN CUDULUESTAN [CUTTLESTONE] HUNDRET⁴

From W(illiam), Roger holds 2 hides in ESENINGETONE [Essington in Bushbury, Staffordshire]. There is land for 6 ploughs. In the demesne is 1, and 2 serfs; and (there are) 15 villeins and 2 bordars with 3 ploughs. Wood(land) 1 league long and the same broad. In Biscopesberie [Bushbury] is 1 virgate of land appurtenant to this estate, but it is waste. It was and is worth 20 shillings.

XXVIII. THE LAND OF WILLIAM SON OF CORBUCTION

William son of Corbucion holds of the king ERMENDONE [? Amington] and Robert of him in pledge (*vadimon[ium]*). There are 4 hides. There is land for 5 ploughs. In the demesne are 2 and 6 serfs; and (there are) 6 villeins and 3 bordars with 2½ ploughs. There are 10 acres of meadow. Wood(land) 4 furlongs long and 2 furlongs broad. It was and is worth 50 shillings. Turchil batoc⁵ held it freely.

³ The early post-Domesday form of the name is Egbaldeston. Unless there was some such name as 'Ecgilbald,' from which 'Egbald' was a corruption, I suppose the 'Cel' which here begins the name is a clerical error.

⁴ This is the Staffordshire Hundred of Cuddleston, now called Cuttlestone, and this entry is repeated *verbatim et literatim* in the Domesday of Staffordshire.

⁵ 'batoc' is interlined.

THE HOLDERS OF LANDS

From W(illiam), Ailmar holds 2 hides in CINTONE [¹ Kington¹ in Bickenhill and Solihull].² There is land for 2 ploughs. There are 5 villeins who have them. Wood(land) half a league long and 4 furlongs broad. It was and is worth 10 shillings. Turchil held it freely T.R.E.

From W(illiam), Juhell holds 2½ hides in SECHINTONRE [Seckington]. There is land for 4 ploughs. In the demesne is 1; and (there are) 6 villeins and 4 bordars with 2 ploughs. There are 1½ acres of meadow. It was and is worth 30 shillings. Ernui held it.

From W(illiam), Ordric holds 2 hides in WITSCAGA [Wishaw].³ There is land for 2 ploughs. There are 3 villeins with a priest and 4 bordars. Wood(land) 3 furlongs long and 1 broad. It was worth 30 shillings; now 10 shillings. The same Ordric held it freely.

IN MERETON [MARTON] HUNDRET

From W(illiam), Roger holds 1 hide in HODENELLE [Hodnell]. (There is land for)⁴ 1 plough. It is there with 2 villeins and 2 bordars. There are 6 acres of meadow. It was worth 10 shillings; now 20 shillings. Alwi held it freely.

From W(illiam), Osmund holds 2 hides in HUNINGEHAM [Hunningham].⁵ There is land for 4 ploughs. In the demesne is 1, and 2 serfs; and (there are) 4 villeins and 2 bordars with 1 plough. There are 6 acres of meadow. It was worth 40 shillings; now 30 shillings. Ernewi held it freely T.R.E.

From W(illiam), Chetel holds 1½ hides

¹ Alias Kingsford.

² Coming between Amington and Seckington, which are two adjoining parishes in Hemlingford Hundred, I thought that 'Cintone' would be a neighbouring place in the same hundred, and as Kington, which with Lyndon formed a member of Bickenhill, is in the same hundred and in Turchil's territory, and is found at an early date in the hands of the Mountforts of Beaudesert, who somehow acquired a considerable portion of the Corbucion estates, I have little doubt that the identification here made is correct. Dugdale (p. 553) seems to identify this 'Cintone' with Kineton, but evidently distrusts (p. 431) his own suggestion. (There is however nothing to connect William or his heirs with the above place.—J.H.R.)

³ Doubtless in 'Coleshelle' Hundred, being afterward in Hemlingford Hundred.

⁴ The leaf is injured here.

in the same vill [HUNINGEHAM]⁶ and half a virgate of land.⁶ There is land for 3 ploughs. In the demesne is 1, with 1 serf; and (there are) 3 villeins and 5 bordars with 2 ploughs. There are 6 acres of meadow. It was and is worth 30 shillings. Saulf held it freely.

IN STANLEI [STONELEIGH] HUNDRET

From W(illiam), Johais holds 2½ virgates of land in WESTONE [Weston under Wetherley].⁷ There is land for 1½ ploughs. In the demesne is 1 with 1 villein and 1 bordar. There are 10 acres of meadow. It was and is worth 10 shillings. Sawold held it freely.

From W(illiam), Roger holds 1 virgate of land in CONDELME [Coundon].⁸ There is land for 1 plough. There are 2 bordars. Wood(land) half a league long and 4 furlongs broad. It was worth 5 shillings; now 4 shillings.

IN BERRICESTONE [BARCHESTON] HUNDRET

From W(illiam), Johais holds 2½ hides in BERRICESTONE [Barcheston]. There is land for 3½ ploughs. In the demesne are 2; and (there are) 5 villeins and 7 bordars with 1½ ploughs. There is a mill worth (*de*) 100 pence, and 12 acres of meadow. It was worth 40 shillings; now 50 shillings. Wiching held it freely T.R.E.

From W(illiam), Geoffrey holds 1 hide in MAPELBERGE [Mappleborough in Studley].⁹ There is land for 3 ploughs. In the demesne is 1 with 1 serf; and (there are) 2 villeins with 1 plough. There are 10 acres of meadow. Wood(land) 1 furlong long and 1 broad. It was worth 20 shillings; now 15 shillings. Leuiet held it freely.

⁵ Honingham (now Hunningham), which appears afterward in Marton Leet, was doubtless in the Domesday Hundred of 'Meretone.'

⁶ i.e. 1½ hides in all.

⁷ The identification seems clear, for this Weston afterward appears in Stoneleigh Leet. The 1½ virgates held here by Robert under Turchil, together with these 2½ virgates, make up a 1-hide estate, in addition to which Robert also held here an estate of 3 hides less one-third of a virgate under the Count of Meulan.

⁸ Coundon afterward in Stoneleigh Leet was doubtless in the Domesday Hundred of 'Stanlei.' The one virgate of this estate together with the three virgates held here by the Church of Coventry make it a 1-hide place.

⁹ Mappleborough was, no doubt, like Studley, in 'Fernecumbe' Hundred.

A HISTORY OF WARWICKSHIRE

From W(illiam), Turchil holds $1\frac{1}{2}$ hides in ECLESHELLE [Exhall].¹ There is land for 1 plough. There are 2 bordars and 10 acres of meadow. It was worth 10 shillings; now 5 shillings. Suain held it freely T.R.E.

From W(illiam), Leuric and Eileua hold 3 hides and 1 virgate of land in GASTON [(? Arden's) Grafton].² There is land for 2 ploughs. In the demesne is one, and 2 serfs; and (there are) 1 villein and 3 bordars with 1 plough. There are 4 acres of meadow. It was worth 40 shillings; now 30 shillings. The same persons (*Idem ipsi*) held it freely.

From W(illiam), William holds 2 hides in BENINTON [Binton].³ There is land for 2 ploughs. In the demesne is one, with 1 serf and 5 bordars. There are 3 acres of meadow. On the part of the mill (there are received) 4 loads (*summas*) of flour and 8 'sticks' of eels; and from Wich [Droitwich] 3 loads (*summas*) of salt. It was worth 20 shillings; now 30 shillings. Edric held it freely T.R.E.

IN TREMELAU HUNDRET

William himself (*Ipse Willelmus*) holds 1 hide in BEREฟอร์ด [Barford]⁴ of the king. There is land for 2 ploughs. There are 2 serfs and 9 acres of meadow. It was worth 20 shillings; now 5 shillings. Saulf held it T.R.E.

IN FERNECUMBE HUNDRET

The same W(illiam) holds 4 hides in STODLEI [Studley].⁵ There is land for 11 ploughs. In the demesne are 2, and 3 serfs; and 19

¹ Near Alcester. This identification is clear owing to the connection of the Corbisons with the place. It is afterward found in Barlichway Hundred but not in Pathlow Liberty, and was doubtless in the Domesday Hundred of 'Ferne-cumbe.'

² This was probably the portion of Grafton known as 'Arden's,' being the smaller of the two. It is between Exhall and Binton, and for the same reasons as Exhall was doubtless in 'Ferne-cumbe' Hundred. The connection of the Corbisons with it in after times is well ascertained (Dugdale, p. 541).

³ This identification is no doubt correct. Binton, in the same way as Exhall and Grafton, was doubtless in 'Ferne-cumbe' Hundred. For Domesday purposes we may, I think, ignore the place in Salford now called Bevington, but in the first two Subsidy Rolls 'Benyn-ton.'

⁴ Barford appears afterward in Kinton Hundred, in which 'Tremelau' Hundred was merged.

⁵ Studley, as we should expect, appears afterwards in Barlichway Hundred, but not in Pathlow Liberty.

villeins with a priest and 12 bordars have 9 ploughs. There is a mill worth (*de*) 5 shillings, and 24 acres of meadow. A salt pan renders 19 loads (*summas*) of salt.⁶ Wood(land) 1 league long and half a league broad. It was and is worth 100 shillings. Suain held it freely.

The same W(illiam) holds $2\frac{1}{2}$ hides and two thirds of 1 virgate in ULWARDITONE [Wolverton].⁷ There is land for 5 ploughs. In the demesne is 1, and 4 serfs; and (there are) 10 villeins and 7 bordars with 5 ploughs. There are 20 acres of meadow. Wood(land) 1 furlong long and half (a furlong) broad. In Warwic(k) 1 house paying 8 pence. It was worth 30 shillings; now 60 shillings. Ernuin held it freely T.R.E.⁸

The same W(illiam) holds 4 hides in BURLEY [Bearley].⁹ There is land for 4 ploughs. In the demesne is 1, and 2 serfs; and (there are) 9 villeins and 6 bordars with 5 ploughs. There are 4 acres of meadow. In Warwic(k) 1 house paying 8 pence. It was worth 60 shillings; now 40 shillings. Erneuin and his mother held it freely.

IN COLVESTAN HUNDRET¹⁰

The same W(illiam) holds CILLENTONE

⁶ See Introduction, p. 293.

⁷ Comparing this with the entry of 'Ulwarditone' among Robert de Stafford's estates (see p. 330) we find that it was a 4-hide vill, of which Urfer, Robert's tenant, held one third, namely 1 hide and 1 virgate and one third of a virgate, while William son of Corbucion holds two thirds, namely 2 hides and 2 virgates and two thirds of a virgate. As stated before, Wolverton was evidently in 'Ferne-cumbe' Hundred, so that the rubrication of Studley applies to this entry of Wolverton which follows next.

⁸ On the outside margin opposite this entry is written v.v'; and similarly, opposite the paragraph relating to Stodley is written 11 & d'. The former might be short for *quinque virgate* and the latter for *duo et dimidium*. I cannot see that these signs bear any reference to any entries on the page, and I understand it has been suggested that the scribe was merely trying his pen.

⁹ As before stated, this was doubtless in 'Ferne-cumbe' Hundred. The 4 hides here given, together with the 1 hide entered under the fee of Stafford, make 'Burley' a 5-hide place.

¹⁰ This is the Staffordshire Hundred now called 'Cuttlestone.' It will be remembered that William fitz Ansculf's Staffordshire manor of Essington, which is recorded in this county, is also in Cuttlestone Hundred. In the case of Essington however there is a duplicate entry in the Staffordshire Domesday, whereas Chillington is recorded in Warwickshire only.

THE HOLDERS OF LANDS

[Chillington].¹ There are 3 hides. There is land for 6 ploughs. In the demesne is 1 plough, and 9 serfs; and (there are) 13 villeins and 6 bordars with 5 ploughs. There are 2 acres of meadow. Wood(land) 2 leagues long, and half a league broad. It was worth 4 pounds; now 30 shillings. The Bishop of Chester claims this estate.

XXIX. THE LAND OF WILLIAM BUENVASLETH

IN TREMELAU HUNDRET

William Buenvasleth holds of the king LISTECORNE [Lighthorne]. There are 5 hides beside 'inland.'² There is land for 18 ploughs. In the demesne are 2 ploughs and 7 serfs; and 19 villeins and 9 bordars with a priest have 6 ploughs. There are 30 acres of meadow, and 1 grove (*grava*) 2 furlongs long and 20 perches broad. It was worth 100 shillings; now 7 pounds. Earl Ralf³ held it

fo. 243b

IN STANLEI [STONELEIGH] HUNDRET

The same William holds 3 virgates of land in ERBURBERIE [Harbury].⁴ There is land for 2 ploughs. There are 2 villeins. It was worth 10 shillings; now 5 shillings. Ulwin held it freely T.R.E.

IN FERNECUMBE HUNDRET

From W(illiam), Roger holds 4½ hides in OPTONE [Upton juxta Haselor].⁵ There is land for 8 ploughs. In the demesne are 1½, and 4 serfs; and (there are) 10 villeins and 5 bordars with 4 ploughs. There are 30 acres of meadow. Wood(land) 10 furlongs and 18 perches long, and 5 furlongs broad. It is worth 70 shillings. It was worth⁶ 10 shillings. Three men of Earl Leofric (*Leurici*) held it freely.

From W(illiam), Hugh holds 2 hides in SPERNORE [Spennall].⁷ There is land for 4 ploughs. In the demesne is 1; and (there)

are 4 villeins and 7 bordars with 3 ploughs. There is a mill worth (*de*) 4 shillings and 7 sticks of eels, and 8 acres of meadow. Wood(land) 3 furlongs long and 1 broad. It is worth 40 shillings.⁸

From W(illiam), William holds 1 hide in STODLEI [Studley].⁹ There is land for 2 ploughs. In the demesne is 1 plough; and (there) are 4 acres of meadow. Wood(land) 3 furlongs long and 2 furlongs broad. It is worth 10 shillings. Godric held it freely.

XXX. THE LAND OF GEOFFREY DE MANNEVILLE

Geoffrey de Manneville holds of the king CUNTONE [Long Compton].¹⁰ There are 30 hides. There is land for 20 ploughs. In the demesne are 7, and 25 serfs; and 45 villeins with a priest and 13 bordars and 2 knights have 10 ploughs. There is a mill worth (*de*) 10 shillings, and meadow 3 furlongs long and as much broad. Wood(land) 2 furlongs in length and breadth. It was worth 15 pounds; now 30 pounds. Asgar the Staller (*stalle*) held it.

IN HONESBERIE HUNDRET

From the same Geoffrey, William holds half a hide and the fourth part of a hide in WIMELESTONE [Wormleighton]. There is land for 1½ ploughs. In the demesne is 1 plough with 2 bordars. It was worth 20 shillings; now 15 shillings.

XXXI. THE LAND OF GEOFFREY DE WIRCE

IN BOMELAU HUNDRET

Geoffrey de Wirce¹¹ holds of the king CHIRCHEBERIE [Monks Kirby]. There are 15 hides. There is land for 20 ploughs. In the demesne are 7, and 6 serfs, and 2 bond-women; and (there are) 41 villeins and 2 bordars with 2 priests, who have (*habentes*) 21 ploughs. There are 40 acres of meadow.

¹ In Brewood, Staffordshire.

² 'Inland' paid no geld to the king. This was evidently a case of 'beneficial hidation.'

³ Probably Ralf Earl of Hereford.—J.H.R.

⁴ This is the last of the five entries relating to Harbury, and brings the hidage up to exactly 12½.

⁵ This identification is clear, for this is the only Upton found afterwards in Barlichway Hundred, which Hundred absorbed 'Fernecumbe' Hundred. Upton is not far from Studley and Spennall.

⁶ The text is doubtful here.

⁷ Near Studley.

⁸ Doubtless like Studley, it was in 'Fernecumbe' Hundred.

⁹ This hide, together with the 4 hides held by William fitz Corbucion in demesne, make Studley a 5-hide place.

¹⁰ As shown in my former note concerning the Comptons, this was evidently Long Compton, for Dugdale clearly traces the tenure of the Mandevilles. Judging by its position, I suppose that it was in Barcheston Hundred.

¹¹ See Introduction, p. 275.

A HISTORY OF WARWICKSHIRE

In this manor the monks of S. Nicholas [of Angers] have 2 ploughs, and 22 villeins (*vil-lanos*) and 6 bordars with 5 ploughs.

The whole was worth 100 shillings, and afterwards 40 shillings; now 10 pounds. Lewin held it freely.

The same G(eoffrey) holds NEWBOLD [Newbold-on-Avon].¹ There are 8 hides. There is land for 16 ploughs. In the demesne are 3, and 2 serfs; and (there are) 25 villeins and 8 bordars with 11 ploughs. It was and is worth 100 shillings. Lewin held it freely.

The same G(eoffrey) holds FENINIWEBOLD [Newbold Revel].² There are 8 hides. There is land for 16 ploughs. In the demesne are 4 ploughs and 8 serfs; and (there are) 26 villeins and 3 bordars with 10 ploughs. There are 10 acres of meadow. It was and is worth 7 pounds. Lewin held it freely.

IN MERETON [MARTON] HUNDRET

The same G(eoffrey) holds 5 hides in LELLE-FORD [Long Lawford].³ There is land for 14 ploughs. In the demesne is 1; and 14 villeins and 7 bordars have 7 ploughs. There is a mill worth (*de*) 14 shillings. It was worth 40 shillings; now 50 shillings.

The same G(eoffrey) holds WAPEBERIE [Wappenbury].⁴ There are 5 hides. There

¹ This is Dugdale's identification, and I think it is correct, though his logic is not convincing. Otherwise we must suppose that Newbold-on-Avon, the most important of the Newbolds, was omitted from Domesday Book. See next note.

² This also is Dugdale's identification, and probably correct. Indeed, if, as he states (p. 56), this manor was conveyed in 6 Richard II. by the name of 'Feni-Newbold,' there can be no question but that he is right. Otherwise, this entry looks suspiciously like a repetition of the account of Newebold preceding it, with the less important particulars slightly varied. In the Subsidy Roll of 1 Edward III. Newbold Revel appears under the head of 'Newbolde and Strettone,' with John Revel first on the list of those who paid.

³ I have little doubt of this identification, providing that Dugdale (p. 21) is correct in stating that it was in this Lawford that Geoffrey de Wirce granted the tithes to the monastery of S. Nicholas of Angers. In 1 Edward III., Long Lawford, was in Brinklow Leet, and Church Lawford in Marton Leet: but as Long Lawford was originally in the parish of Church Lawford, it was doubtless also originally in Marton Leet and in the Domesday Hundred of 'Meretone.'

⁴ This identification is obvious. Moreover it is afterward found in Marton Leet, and was there-

is land for 15 ploughs. In the demesne are 3 ploughs and 6 serfs; and (there are) 19 villeins and 6 bordars with 10 ploughs. There is a mill worth (*de*) 6 shillings and 8 pence. Wood(land) half a league long and 2 furlongs broad. It was and is worth 110 shillings.

The same G(eoffrey) holds HANTONE⁵ [Hampton in Arden].⁶ There are 10 hides. There is land for 22 ploughs. In the demesne are 2, and 2 serfs, and 2 bond-women; and 50 villeins with a priest and 16 bordars have 13 ploughs. There is a mill worth (*de*) 40 pence and 10 acres of meadow. Wood(land) 3 leagues long and 3 broad. It was and is worth 100 shillings.

From the same G(eoffrey), Sot (*Sotus*) holds SCOTESCOTE [Shustoke].⁷ There are 4 hides. There is land for 8 ploughs. In the demesne is 1 plough and 3 serfs; and (there are) 10 villeins with 3 ploughs. There are 16 acres of meadow. Wood(land) 1 league long and half a league broad. It was and is worth 40 shillings.

From G(eoffrey), Ansgot the priest holds 1 hide in BENECHELIE [Bentley]⁸ in almoyn. There is land for 2 ploughs, and they are there with 4 villeins. Wood(land) half a league long and 3 furlongs broad. It was and is worth 64 pence.

From G(eoffrey), Bruno holds 2 hides in GAURA [Brownsover].⁹ There is land for 2 ploughs, and they are there, with 4 villeins and 3 bordars and 2 serfs (*servis*). There are 2 acres of meadow. It was and is worth 20 shillings.

fore doubtless, like the preceding place, in the Domesday Hundred of 'Meretone.'

⁵ Between this and the preceding entry there is a space left in the MS. for 'Coleshelle' Hundred to be inserted.

⁶ This is also an obvious identification, and Dugdale (p. 696) makes clear the subsequent overlordship of the Mowbrays, who succeeded to Geoffrey de Wirce. Hampton in Arden, afterwards in Hemlingford Hundred, was doubtless in the Domesday Hundred of 'Coleshelle.'

⁷ Shustoke. Exactly the same remarks apply to this identification.

⁸ Bentley was of course, like Shustoke, in 'Coleshelle' Hundred. The 'c' was, as often, a mistake for 't.'

⁹ This place no doubt took its name from the Domesday tenant Bruno. See note on p. 309 and also the next note.

THE HOLDERS OF LANDS

From G(eoffrey), Robert holds 5 hides in WARA [? Cesters Over].¹ There is land for 8 ploughs. In the demesne are 2, with 1 serf; and (there are) 9 villeins and 2 bordars with 5 ploughs. There is a mill worth (*de*) 2 shillings, and 10½ acres of meadow. It was and is worth 40 shillings.

From G(eoffrey), Ansegis holds 1 hide in NIWEHAM [Newnham Paddox].² There is land for 8 ploughs. In the demesne is 1, and 3 serfs; and (there are) 16 villeins and 5 bordars with 6 ploughs. There are 20 acres of meadow. It was worth 20 shillings; now 60 shillings.

From G(eoffrey), Ulvric holds 3 hides in APLEFORD [Hopsford].³ There is land for 3 ploughs, and they are there, with 6 villeins and 2 serfs. There are 5 acres of meadow. It was worth 20 shillings; now 30 shillings. The same Ulvric held it freely.

All the above-mentioned lands Lewin held, and could betake himself (*ire*) whither he would.⁴

XXXII. THE LAND OF GILBERT DE GAND

Gilbert de Gand holds of the king 1 hide and 1½ virgates in ULLAVINTONE [Willington]⁵ and Fulbric of him. There is land for 1 plough. There is 1 villein, and 2 bordars and 4 serfs with 1 plough. There is a mill worth (*de*) 5 shillings, and 15 acres of meadow.

¹ This identification is probable, but by no means certain. See note on p. 309. One of the Overs is rubricated as in 'Bomelau' Hundred, so probably they were all in that Hundred, though they are farther south than the places known to be in that Hundred.

² This identification, which is Dugdale's, is no doubt right so far as it goes, for this Newnham can be traced as in the fee of the Mowbrays the successors of Geoffrey de Wirce. But judging of its importance by the particulars given I consider that it must have also included Newnham Regis. I suppose that, appearing afterward in Brinklow Leet, it was in the Domesday Hundred of 'Bomelau.' See the Introduction, p. 280, for the identity of 'Lewin,' its previous holder.

³ This identification is also Dugdale's, and is no doubt correct. The '1' may be a clerical error for 's.' The name generally appeared in early records as 'Happesford,' and the place was in the Mowbray fee. Like Newnham, it was, I suppose, in 'Bomelau' Hundred.

⁴ i.e. choose his lord.

⁵ I suppose this is correct. Cf. note on p. 329. But the total hidage seems severe. Willington was doubtless in Barcheston Hundred.

It was and is worth 20 shillings. Alward held it freely.

XXXIII. THE LAND OF GILBERT SON OF TUROLD

IN BERRICESTONE [BARCHESTON] HUNDRET

Gilbert son of Turolde holds of the king 6 hides in STRATONE [Stretton on the Fosse],⁶ and Walter (holds) of him. There is land for 8 ploughs. In the demesne are 1½ ploughs, and 4 serfs; and 8 villeins and 3 bordars with a priest and 1 knight have 5 ploughs. There are 23 acres of meadow, and of pasture 40 perches long, and as much broad. It was worth 70 shillings; now 110 shillings. Chenward and Brictric held it freely.

XXXIV. THE LAND OF GERIN⁷

Gerin holds of the king 5 hides in BENITONE [? Binton].⁸ There is land for 4 ploughs. In the demesne are 2, with 1 serf; and (there are) 5 villeins and 5 bordars with 1 plough. There is a mill worth (*de*) 4 shillings, and 15 acres of meadow. It was worth 40 shillings; now 60 shillings. Grim held it freely T.R.E.

XXXV. THE LAND OF URSE DE ABETOT

IN FERNECUMBE HUNDRET

Urse (*de*) Abetot holds of the king 1½ hides in HILDEBORDE [Hillborough].⁹ There is land for 2 ploughs. In the demesne is 1, and 2 serfs; and (there are) 3 bordars with half a plough. There are 9 acres of meadow, and a salt pan in Wich [Droitwich] pays 3 shillings. It was worth 16 shillings; now 20 shillings. Ernui held it freely T.R.E.

The same Urse holds 2 hides in BENITONE [Binton].¹⁰ There is land for 2 ploughs. In the demesne is 1; and (there are) 3 villeins and 1 bordar with 1 plough. There is a mill worth (*de*) 2 shillings. It was worth 16 shillings; now 40 shillings. Ernui held it freely.

⁶ Plainly, being close to Barcheston, and being the only Stretton so situate that it would be in a hundred of which Barcheston was head.

⁷ This may have been an Englishman, for a 'Gerin' occurs among the English thegns of Hampshire in 1086.—J.H.R.

⁸ Doubtless Binton, which adjoins Hillborough, and like the latter must have been in 'Fernecombe' Hundred.

⁹ Evidently Hillborough in Temple Grafton.

¹⁰ Obviously Binton, which in a subsequent entry is bracketed with Hillborough, the two being rubricated as in 'Fernecombe' Hundred.

A HISTORY OF WARWICKSHIRE

XXXVI. THE LAND OF STEPHEN¹

Stephen holds of the king 1 hide in DORSITONE² [Little Dorsington]. There is land for 2 ploughs. In the demesne are 2; and (there is) 1 free man with 8 bordars with 1 plough. There are 4 acres of meadow. It was worth 20 shillings; now 30. Ordui held it freely.

IN PATELAU [PATHLOW] HUNDRET

The same Stephen holds 3 hides in MELECOTE [Milcote].³ There is land for 4 ploughs. In the demesne are 2; and (there are) 6 villeins and 6 bordars with 3 ploughs. There are 15 acres of meadow. It was worth 40 shillings; now 50 shillings. Bishop⁴ Ulstan⁵ and Ælfstan held it freely.

fo. 244

XXXVII. THE LAND OF OSBERN SON OF RICHARD

Osbern son of Richard holds of the king ESTONE [Aston Cantlow].⁶ There are 5 hides. There is land for 10 ploughs. There are 9 Flemings (*flandrenses*) and 16 villeins with a priest and 10 bordars who have (*habentes*) 12 ploughs. There is a mill worth (*de*) 8 shillings, and 5 'sticks' of eels, and 40 acres of meadow. Wood(land) 1 league in length and breadth. It was worth 100 shillings; now 6 pounds. Earl Algar held it.

IN PATELAU [PATHLOW] HUNDRET

From the same O(sbern), Urse holds 3 hides in WILMECOTE [Wilmcote near Stratford].

¹ Stephen the steersman (see Introduction).

² Dorsington parva, though in the Gloucestershire parish of Welford, is in Warwickshire, and was doubtless in 'Fernecumbe' Hundred. See next note.

³ Milcote is in Warwickshire, though it is part of the Gloucestershire parish of Weston on Avon. In the Chronicle of Evesham Abbey 'Dorsintune, Mulecote, et alia Mulecote' are mentioned as places in Gloucestershire acquired by Abbot Agelwi (1059-77) for the abbey. Pathlow Hundred consisted largely of church lands. I suggest that Bishop Wulstan may have brought Milcote into it. In 1 Edward III. both Milcote and Dorsington were outside Pathlow Liberty.

⁴ The "ep's" (episcopus) is an interlineation.

⁵ i.e. Wulstan, Bishop of Worcester.

⁶ Although there is no subsequent trace of Osbern's connection with Aston Cantlow, the identification is doubtless correct. The only other Warwickshire Aston has already been accounted for. Aston Cantlow, like other places appearing subsequently in Barlichway Hundred but not in Pathlow Liberty, was doubtless in the Domesday Hundred of 'Fernecumbe.'

There is land for 4 ploughs. In the demesne are 2, and 2 serfs; and (there are) 2 villeins and 2 bordars with 2 ploughs. There are 24 acres of meadow. It was worth 30 shillings; now 60 shillings. Lewin Doda held it freely T.R.E.

IN MERETON [MARTON] HUNDRET

From O(sbern), William holds 5 hides in DONECERCE [Dunchurch]. There is land for 9 ploughs. In the demesne is 1, and 3 serfs; and 12 villeins with a priest and 11 bordars have 5 ploughs. There are 30 acres of meadow. It was and is worth 100 shillings. Ulmar held it.

IN TREMELAU HUNDRET

From O(sbern), Hugh holds 4 hides in BEREFORDE [Barford]. There is land for 12 ploughs. In the demesne is 1, and 2 serfs; and 2 knights with a priest and 4 villeins and 11 bordars have 3 ploughs. There is a mill worth (*de*) 2 shillings and 13 'sticks' of eels, and 60 acres of meadow. It was and is worth 40 shillings.

IN FERNECUMBE HUNDRET

From O(sbern) the same Hugh holds 3 hides and a half⁷ in HILDEBEREURDE [Hillborough] and in BENINTONE [Binton]. There is land for 4 ploughs. In the demesne is 1, and 4 serfs; and (there are) 7 villeins and 2 bordars with 2 ploughs. There is a mill worth (*de*) 12 pence, and 20 acres of meadow. It was and is worth 40 shillings. Lodric held it freely T.R.E.

From O(sbern) the same Hugh holds 3 hides in EPESLEI [Ipsley].⁸ There is land for 7 ploughs. In the demesne is 1, and 2 serfs; and (there are) 7 villeins with a priest and 13 bordars with 4 ploughs. There is a mill worth (*de*) 16 pence. Wood(land) 1 league long and half a league broad. It was worth 30 shillings; now 40 shillings. Earl Algar held it.

From O(sbern), Gilbert holds 5 hides in GRASTONE [Temple Grafton].⁹ There is

⁷ This with the hide and a half of Hillborough already recorded as held by Urse de Abetot make up a 5-hide estate, as if a piece of Binton had been annexed to round off Hillborough.

⁸ Ipsley, being subsequently in Barlichway Hundred but not in Pathlow Liberty, was doubtless in the Domesday Hundred of 'Fernecumbe.'

⁹ Grafton, for the same reason as Ipsley, was doubtless in 'Fernecumbe' Hundred. This was, no doubt, Temple Grafton, for the history of Arden's

THE HOLDERS OF LANDS

land for 5 ploughs. In the demesne are 2, and 4 serfs; and (there are) 6 villeins with a priest and 6 bordars with 5 ploughs. There are 24 acres of meadow. It was worth 3 pounds; now 4 pounds. Mervin and Scrotin and Toti and Tosti held it freely T.R.E.

IN BERICEST(ON) [BARCHESTON] HUNDRET

From O(sbern), Walter holds 2 hides in STRATONE [Stretton on Fosse].¹ He has there half a plough in the demesne, and 2 villeins (*vill'os*) with 1 plough. It was worth 20 shillings; now 30 shillings. Brictric held it freely.

From O(sbern), William holds MOLLITONE [Mollington].² There are 5 hides. There is land for 5 ploughs. In the demesne is 1; and (there are) 4 villeins and 5 bordars with 1 plough. There are 20 acres of meadow. It was worth 40 shillings; now 60 shillings. The mother of Lewin of Niweham [Newham Paddox³ ?] held it freely T.R.E.

XXXVIII. THE LAND OF HAROLD SON OF THE EARL

IN COLESHELLE [COLESHILL] HUNDRET

Harold son of Earl⁴ Ralf holds of the king CELVERDESTOCHE [Chilvers Coton].⁵ There are 8 hides. There is land for 10 ploughs. In the demesne is half a plough and 9 serfs; and (there are) 15 villeins and 7 bordars with 7 ploughs. Meadow 3 furlongs long and 1 broad. Wood(land) 1½ leagues long and 1 league broad. It was worth 40 shillings; now 50 shillings. His father held it.

Grafton under the Corbucions seems clear, and moreover the priest here mentioned implies the church, which was in Temple Grafton.

¹ See the note on the former entry concerning this place. The recorded hidage is 8.

² This is clear, for Dugdale (p. 414) shows that part of the Warwickshire portion of Mollington was held of the Honour of Richard's Castle. Hemmed in by Farnborough and Warmington, Mollington must, like them, have been in 'Honesberie' Hundred. See also Introduction, p. 295, and *V.C.H. Northants*, p. 339b.

³ See Introduction, p. 280.

⁴ 'comitis' is an interlineation.

⁵ Certainly: the tenure of that place under the barons of Sudeley, the descendants of Harold, is quite clear. In the Subsidy Roll of 1 Edward III. and other mediæval records the name appears as 'Chilverscote,' for which I am inclined to think the Domesday name is a mistake. The modern name is probably a compound derived partly from Coton which is a hamlet in this parish.

IN ONESBERIE HUNDRET

The same Harold holds 15 hides in DERCE-TONE [Dassett].⁶ There is land for 23 ploughs. In the demesne is 1 plough and 4 serfs; and 46 villeins with a priest and 9 bordars have 26 ploughs. There 3 knights have 12 villeins with 3 ploughs. There are 27 acres of meadow. It was worth 16 pounds; now 20 pounds. Harold held it T.R.E.

XXXIX. THE LAND OF HASCULF

IN MERETONE [MARTON] HUNDRET

Hasculf Musard holds of the king in LUN-NITONE [Leamington-Hastings].⁷ 12½ hides and half a virgate of land. There is land for 27 ploughs. In the demesne are 7 ploughs and 15 serfs; and 33 villeins with a priest and 24 bordars have 18 ploughs. There is a mill worth (*de*) 2 shillings, and 20 acres of meadow. It was worth 10 pounds; now 12 pounds. Azor held it freely T.R.E.

IN STANLEI [STONELEIGH] HUNDRET

From Hasculf, Humfrey holds 2 hides in WITENAS [Whitnash]. There is land for 8 ploughs. In the demesne are 2 and 5 serfs; and (there are) 11 villeins and 8 bordars with 6 ploughs. There are 10 acres of meadow. It was worth 60 shillings; now 100 shillings. Alvred held it freely T.R.E.

IN TREMELAU HUNDRET

From Hasculf the same Humfrey holds 5 hides in NIWEBOLD [Newbold Pacey].⁸ There is land for 9 ploughs. In the demesne are 4 ploughs and 5 serfs; and (there are) 11 villeins and 11 bordars with 8½ ploughs. There are 10 acres of meadow. It was worth 60 shillings; now 100 shillings. Alvred held it freely T.R.E.

IN FERNECUMBE HUNDRET

From Hasculf the same Humfrey holds

⁶ Certainly Burton Dassett, in which Harold's descendants the Sudeleys held an interest for centuries. The 15 hides here recorded, together with the 10 hides held by the Count of Meulan, make it a 25-hide place. I strongly suspect that the three knights gave its name to Knightcote, a hamlet of Dasset, which certainly existed as early as 1 Edward III.

⁷ Its tenure by the Hastangs under the barony of Musard is clear, and it was in Marton Leet.

⁸ This identification is clear. It is in Kinton Hundred, in which 'Tremelau' Hundred became included. Its tenure by Humfrey's descendants, the Hastangs, under the barony of Musard, is clearly shown by Dugdale (p. 391).

A HISTORY OF WARWICKSHIRE

HASELEIA [Haseley]. There are 3 hides and half a virgate of land. There is land for 2 ploughs. In the demesne is 1; and 3 villeins with a priest and 7 bordars have 2 ploughs. There is a mill worth (*de*) 4 shillings, and 6 acres of meadow. Wood(land) 1 league long and 2 furlongs. It was worth 20 shillings; now 30 shillings. Azur held it freely.

XL. THE LAND OF NICOLAS THE CROSSBOWMAN (*Balistarii*)

IN TREMELAU HUNDRET

Nicolas the Crossbowman (*Balistarius*) holds of the king 3 hides and 1 virgate of land in ALNODESTONE [Aylestone in Atherstone on Stour].¹ There is land for 5 ploughs. In the demesne are 2, and 4 serfs and 3 bondwomen; and (there are) 9 villeins and 3 bordars with 3 ploughs. It was and is worth 60 shillings. Leuric held it freely.

IN FERNECUMBE HUNDRET

The same Nicolas holds 5 hides and 1 virgate of land in HASELOUE [Haselor].² There is land for 9 ploughs. In the demesne are 2 ploughs, and 5 serfs and bondwomen (*inter servos et ancillas*); and 16 villeins with 1 bordar have 7 ploughs. There is a mill worth (*de*) 6 shillings and 8 pence; and a saltpan (*salina*)³ pays 4 shillings and 2 loads (*summas*) of salt. There 2 Frenchmen (*francig*) and 1 burgess render seven pence halfpenny. It was worth 4 pounds; now 6 pounds. Ulviet and Alvrice held it freely.

XLI. THE LAND OF NIGEL DE ALBINGI

Nigel de Albingi holds of the king ALDULVESTREU [Austrey].⁴ There are 5½ hides

¹ This is Dugdale's identification (p. 486) and is doubtless correct, 'Tremelau' Hundred being afterward merged in Kinton Hundred in which Aylestone is situate. In the Subsidy Roll of 1 Edward III. the name appears as 'Ailuastone.'

² Haselor is in Barlichway Hundred, in which 'Ferne-cumbe' Hundred is merged. Nicolas de la Pole (whom Dugdale considers identical with this Nicolas) appears later as concerned both in Haselor and Aylestone.

³ See Introduction, p. 293.

⁴ This is clear; and doubtless it was this Nigel who also held an estate of 2½ hides here under Henry de Ferrieres. Including the 2½ hides held by Burton Abbey, the total hidage was 10 hides and 3 virgates. It looks as if the latter assessment had been super-imposed upon the former. Austrey was doubtless in the Domesday Hundred of 'Coleshelle.'

and 1 virgate of land. There is land for 10 ploughs. In the demesne are 2, and 12 villeins with a priest and 8 bordars have 5 ploughs. There is meadow (*prati*) 1 furlong long and another broad.⁵ It was worth 6 pounds; now 3 pounds. Eight thegns held it freely T.R.E.

The same Nigel holds 2½ hides in ALTONE [? Hatton].⁶ There is land for 4 ploughs. There are 3 villeins with 1 bordar who have (*habentes*) 2½ ploughs. It was and is worth 20 shillings. Ulwin and Leuric held it freely.

XLII. THE LAND OF CRISTINA⁷

IN COLESHELLE [COLESHILL] HUNDRET

Cristina holds of the king 8 hides in ULVERLEI [Solihull].⁸ There is land for 20 ploughs. In the demesne is 1, and 3 serfs; and 22 villeins with a priest and 4 bordars have 7 ploughs. There are 12 acres of meadow. Wood(land) 4 leagues long and half

⁵ Austrey meadows are of sufficient importance to be marked on the map between Austrey and Shuttington.—J.H.R.

⁶ I think this is possible. Otherwise Hatton, an ancient parish which included Shrewley and Beausale, was omitted from Domesday Book. Hugh fitz Richard was the successor of Nigel de Albingi in Austrey, and it was, I feel sure, as such successor that he held Hatton, even though the overlordship was in the Earls of Warwick. Dugdale ignores this entry, but does not make his frequent suggestion that Hatton was 'involved' in any other place. Hatton, being afterward in Barlichway Hundred, not in Pathlow Liberty, was doubtless in the Domesday Hundred of 'Ferne-cumbe.' But the history of these two manors is at present obscure, and Mr. Round says he cannot accept this conclusion because Nigel de Albingi's barony, of which Cainhoe, Beds, was the head, remained for generations in the hands of his heirs; and because, although Dugdale no doubt considered that he was succeeded at Austrey by Hugh fitz Richard, the Burton Abbey document on which he relied ends by speaking of Albingi of Cainhoe as the overlord.

⁷ See Introduction, p. 281.

⁸ I have no doubt that Dugdale is right in this identification. The name of Hullerley survived in the parish in his day, and the Ordnance maps now show a district called 'The Ulleries,' and also an Ulverley Green, the latter preserving the Domesday name. Moreover, the Limesis who succeeded Cristina in both Warwickshire and Oxfordshire, undoubtedly held Solihull. It is not surprising that a priest is mentioned, for the dedication of the church, being to S. Alphege, was doubtless pre-conquestual.

THE HOLDERS OF LANDS

a league broad, is worth 12 shillings when it bears (*oneratur*). It (Ulverlei) was worth 10 pounds; now 4 pounds. Earl Eduin held it.

With this is valued also the following estate (*terra*).

The same (*Ipsa*) Cristina holds 1 hide in ARLEI [Arley].¹ There are 4 villeins who have (*habentes*) 2 ploughs. Wood(land) 1 league long and a half² and in breadth 1 league, when it bears (*oneratur*), is worth 60 shillings.

IN MERETON [MARTON] HUNDRET

The same Cristina holds ICENTONE [Long Itchington].³ There are 24 hides. There is land for 21 ploughs. In the demesne are 5 ploughs and 10 serfs; and 83 villeins with 2 priests and 4 bordars have 17 ploughs. There are 2 mills worth (*de*) 6 shillings and 8 pence, and 16 acres of meadow; pasture 2 furlongs long and 1 furlong broad. It was worth 12 pounds; now 20 pounds. When the king gave it to Cristina it was paying 36 pounds.

XLIII. OF THE KING'S ALMS

(*Elemosinæ Regis*)

Leveve the nun (*monialis*) holds of the king SALFORD [Salford Priors]⁴ in almain (*in elemos*). There are 3 hides. There is land for 10 ploughs. In the demesne are 2, and 7 serfs; and (there are) 8 villeins and 8 bordars with a priest, who have (*habentes*) 8 ploughs. There is a mill worth (*de*) 5 shillings, and 12 acres of meadow. Wood (land) 2 furlongs long and half a furlong broad. It was worth 40 shillings; now 6 pounds. Godeva, the wife of Earl Leofric (*Leurici*) held it.

¹ This is obvious, and Arley also came to the Limesis. Being afterward in Marton Leet, it was doubtless in the Domesday Hundred of 'Meretone.' [There can be no doubt that Arley was in the Leet of Marton, for it is so described in the Subsidy Roll of 1 Edw. III., and also in the Roll quoted by Dugdale, *Antiq. Warwicks*. p. 4 (1656 ed.) Otherwise one would certainly say, from its position, that it was in the Leet of Brinklow and, in Domesday times, in the Hundred of 'Bomelau.'—B.W.]

² Translated word for word, in the same order as the Latin.

³ Plainly, because Long Itchington was in Marton Leet and was held by the Limesis.

⁴ This is quite clear. Its history as distinct from Abbot's Salford is given by Dugdale. Like Abbot's Salford it was doubtless in the Domesday Hundred of 'Fernecombe.' The two Salfords together contained 5 hides.

IN FERNECUMBE HUNDRET

Edith (*Eddid*) holds of the king 5 hides in BICHEMERSE [Bickmarsh]. There is land for 9 ploughs. In the demesne are 3 ploughs and 4 serfs; and (there are) 13 villeins and 3 bordars with 6 ploughs. It was worth 4 pounds; now 100 shillings. The same (Edith) held it T.R.E.

fo. 244b

XLIV. THE LAND OF RICHARD THE FORESTER

IN BOMELAU HUNDRET

Richard the Forester holds of the king HERDEBERGE [Harborough (? Great and Little)].⁵ There are 4½ hides. There is land for as many ploughs. There are 4 villeins and 4 bordars with 1 plough. There are 20 acres of meadow. It was worth 10 shillings; now 20 shillings. Four thegns held it freely.

The same Richard holds half a hide in BRANCOTE [Bramcote in Bulkington].⁶ There is land for 1 plough. There is 1 villein with half a plough. It is worth 2 shillings. Sexi held it freely.

IN MERETON [MARTON] HUNDRET

R(ichard) holds of the king 2 hides in GRENEBERGE [Grandborough].⁷ There is land for 4 ploughs. In the demesne are 2, and 3 serfs; and (there are) 6 villeins and 2 bordars with 2 ploughs. There are 20 acres of meadow. It was worth 20 shillings; now 50 shillings. Bundi held it freely.⁸

⁵ This is doubtless so; for 'Bomelau' Hundred, which contained Monks Kirby, may well have included the adjoining Harborough. 'Bomelau' Hundred seems to have been superseded by Brinklow Leet, in which Harborough subsequently appears.

⁶ This seems correct. Being afterward in Brinklow Leet, it was doubtless in the Domesday Hundred of 'Bomelau.' This half-hide together with the hide and a half held by Earl Aubrey would make this Bramcote a 2-hide place. Moreover, Sexi, its T.R.E. tenant, had also been tenant of Weston, Smercote and Souley, all adjoining to Bramcote-in-Bulkington.

⁷ The 8 hides 1 virgate of the Church of Coventry's estate, together with the 2 hides here recorded, make it appear that this was a 10-hide place, to which an additional virgate of assessment had been tacked on.

⁸ This last clause is inserted at the end of the next entry, but is plainly connected by a reference sign with this entry relating to Grandborough.

A HISTORY OF WARWICKSHIRE

The same R(ichard) holds half a hide in SOCHEBERGE [Nether Shuckburgh].¹ There is land for 1 plough and it is there with 5 villeins. It was worth 10 shillings; now 20 shillings. Edric held it freely.

The same R(ichard) holds 1 hide in MORTONE [Hillmorton].² There is land for 2 ploughs. In the demesne is half a plough; and (there are) 3 villeins and 3 bordars with 1 plough. There are 10 acres of meadow. It was and is worth 20 shillings. Wiching held it freely.

IN HONESBERIE HUNDRET

From the same Richard, Ermenfrith (*Er̃m̃-frid̃*) holds 1 hide at farm in RADWEIA [Radway].³ There is land for 3 ploughs. In the demesne are 2, with 1 serf; and (there are) 1 villein and 3 bordars with 1 plough. There are 3 acres of meadow. It was worth 20 shillings; now 25. Earl Ralf (*Comes R.*) held it T.R.E.⁴

IN STANLEI [STONELEIGH] HUNDRET

Richard the Huntsman⁵ (*R. Venator*) holds of the king 1 hide in SOWA [Sowe]. There is land for 2 ploughs. In the demesne is 1; and (there are) 2 villeins and 2 bordars with

half a plough. There are 3 acres of meadow. The wood(land) there, between himself and the king and the abbot,⁶ is (*babet*) 3 leagues long and 1 league broad. It was worth 20 shillings; now 60 shillings. Colebran held it freely T.R.E.

IN TREMELAU HUNDRET

Richard the Huntsman (*R. Venator*) holds 3 hides in CESTRETONE [Chesterton]. There is land for 6 ploughs. In the demesne are 3 ploughs; and (there are) 6 villeins and 4 bordars with 3 ploughs. There are 30 acres of meadow. It was worth 40 shillings; now 100 shillings. Four thegns held it freely.⁷

IN BERRICESTUNE [BARCHESTON] HUNDRET

Alvric holds of the king 1 hide and half a virgate of land in BERRICESTUNE⁸ [Barcheston]. There is land for 2 ploughs. In the demesne is 1, and 4 villeins have 2 ploughs. There are 10 acres of meadow. It was worth 20 shillings; now 40 shillings. Wichig' held it freely.

IN COLESHELLE [COLESHILL] HUNDRET

Alsī holds of the king half a hide⁹ in FELINGELEI¹⁰ [Fillongley]. There is land for 1 plough, and it is in the demesne with 1 serf; and 7 villeins with 1 bordar have 1 plough. Wood(land) worth 10 shillings when it bears (*onerat*). It (the estate) is worth 30 shillings. The same man (*Idem ipse*) held it himself.

IN MERETON [MARTON] HUNDRET

Lewin holds of the king 1½ hides in FLECHENHO [Flecknoe]. There is land for 2 ploughs. In the demesne is 1, and 3 serfs; and 3 villeins with 1 bordar have 1 plough. It was worth 10 shillings; now 30 shillings.

This (*bic*) Lewin bought (it) from Alwin his brother.

⁶ i.e. of Coventry. See the entry under the estates of the Church of Coventry.

⁷ Between this entry and the next following, there is something of a gap, showing that the list of Richard the Forester's estates ends here. The holdings which follow are those of English thegns.

⁸ 'Berricestune' and 'Felingelai' are both interlineated. I take this as a sign that to this particular clerk who made these returns it seemed of more importance to know on what hundred the assessment lay, than on what township.

⁹ Fillongley appears under four estates, each of half a hide.

¹ Assuming that Dugdale's account of this place and his reference to the Testa de Nevill are correct, this must be Nether Shuckburgh which however was always afterwards in Kinton Hundred; whereas, seeing the apparently careful rubrication of Richard Forester's estates, this would seem to be in Marton Hundred. [The *Testa de Nevill* does not specify in which of the Shuckburghs Richard's holding lay. But Dugdale's account seems to be right.—J.H.R.]

² I think so; but the subsequent history affords no clue; and see the former notes on the Mortons held by the Count of Meulan and Hugh de Grentmesnil, as to the difficulty of distinguishing between Marton and Morton. All the five entries make up in hidage a little more than 5 hides, so that if they relate to one place, that would, I suppose, be Hillmorton, which is about three times as large as Marton.

³ It is on the strength of this rubrication that Radway has been assigned to 'Honesberie' Hundred in the notes on the former entries relating to it. The hide here recorded brings the hidage up to the unusual number of 6 hides.

⁴ Dugdale (p. 420) shows that Earl Ralf's descendants, the de Sudeleys, and Richard Forester's descendants, the de Loges family, both had interests in this place.

⁵ Dugdale is no doubt right in stating that this is merely Richard the Forester under a different name. He was also known as Chenuin, and Chenen or Cheven. See Eyton's *Domesday Studies*, *Staffordshire*, pp. 53, 55–6.

THE HOLDERS OF LANDS

The same Lewin holds 2 hides and half a virgate of land in FLECHENHO [Flecknoe].¹ There is land for 2 ploughs. There is 1 with 2 villeins and 1 bordar and 6 acres of meadow. It was worth 10 shillings; now 20 shillings.

This estate Lewin said that he holds of Bishop Ulstan; but the bishop failed him in (his) plea, whereby the same Lewin is at (*in*) the king's mercy.²

Ordric holds of the king 1 hide in ETEDONE [Eatington].³ This is waste.

Goduin holds of the king 1 hide in CORNELIE [Corley].⁴ There is land for 2 ploughs. In the demesne is 1, and 3 serfs; and (there are) 4 villeins and 2 bordars with 2 ploughs. There are 6 acres of meadow. (There is) Wood(land) having in length the fourth part of a league, and in breadth the fourth part of half a league. It was worth 10 shillings; now 30 shillings. The same Goduin held it freely T.R.E.

XLV. THE LAND OF THE WIFE OF HUGH DE GRENTEMAISNIL

Adeliz wife of Hugh holds of the king 4 hides in MILDENTONE [Middleton].⁵ There

¹ The particulars here given as to this estate are (except that the value 'post' is not given) exactly the same as those stated in the entry under the Bishop of Worcester's estates, where Lewin is said to hold under the Bishop. I therefore take it that these two are duplicate entries referring to the same estate. That being so it appears that Lewin held (or claimed to hold) one half of the place (viz. 2 hides and half a virgate + $1\frac{1}{2}$ hides = $3\frac{1}{2}$ hides and half a virgate), and Turchil held one half (viz. 1 hide and half a virgate + $2\frac{1}{2}$ hides = $3\frac{1}{2}$ hides and half a virgate). Lewin would seem to have been Turchil's uncle.

² See Introduction, p. 296.

³ EATINGTON in a former entry was rubricated as in 'Tremelau' Hundred. It is mentioned four times in Domesday Book; the first entry assigning 1 hide to 'Fulrei' and 'Etendone' jointly. 'Fulrei' [Fulready] however is merely a hamlet in EATINGTON. In the other three entries the hidages are 1, 17 and 1, making up altogether a 20-hide place.

⁴ Corley, appearing subsequently in Hemlingford Hundred, was doubtless in the Domesday Hundred of 'Coleshelle.'

⁵ In the same way as Corley, Middleton would

be in 'Coleshelle' Hundred. This looks suspiciously like a duplicate entry of her husband's estate in Middleton, but there are differences, and we may suppose that the former tenants Pallin and Turgot enjoyed an equal division, which Hugh and his wife had continued, the husband retaining the manorial mill, and his interest in the priest's estate whatever that may have implied. It may be mentioned that Adeliz held a 'Mildentone' in Bedfordshire, but I see no reason to suspect confusion.

⁶ Robert holds of the king half a hide in BERCESTONE [Barston]⁷ and there has 1 plough, and a mill worth (*de*) 20 pence. It is worth 20 shillings. Turchil held it freely.

Anseis⁸ holds of the king 4 hides in HERDEBERGE [Harborough].⁹ (There is) land for 4 ploughs. There is now in the demesne 1 plough; and 8 villeins with a priest and 7 bordars have 2 ploughs. There is a mill worth (*de*) 16 pence. It was worth 10 shillings; now 20 shillings. Bruning held it freely T.R.E.

(MEMORANDUM.—The following entries relating to Berchewelle [Berkswell], Witacre [Whitacre], Salwebrige [Sawbridge] and Wicford [possibly Whichford] occur in the Domesday of Northamptonshire.

be in 'Coleshelle' Hundred. This looks suspiciously like a duplicate entry of her husband's estate in Middleton, but there are differences, and we may suppose that the former tenants Pallin and Turgot enjoyed an equal division, which Hugh and his wife had continued, the husband retaining the manorial mill, and his interest in the priest's estate whatever that may have implied. It may be mentioned that Adeliz held a 'Mildentone' in Bedfordshire, but I see no reason to suspect confusion.

⁶ This and the next entry stand at the head of the second column and therefore come after the entry of Adeliz's estate, but they are obviously intended to be included among the estates of 'Richard and other thegns and sergeants of the king.' Possibly they had been overlooked.

⁷ I think so, and that Robert is either Robert Dispensator or Robert de Olgi, who were both concerned in Barston. Turchil is the former holder, and we have found his father Alwin the T.R.E. tenant of 'Bertanestone' which is undoubtedly Barston. The 'c' may be, as often, a mistake for 't.' Barston, which is in Hemlingford Hundred, would be in the Domesday Hundred of 'Coleshelle.'

⁸ This must have been the 'Ansegis' who held under Geoffrey de 'Wirce' in the adjoining parish of Newnham Paddox.—J.H.R.

⁹ Harborough, as already stated, is rubricated in 'Bomelau' Hundred.

A HISTORY OF WARWICKSHIRE

[NORTHANTS]

(From *V.C.H. Northants*, vol. i.)

THE LAND OF THE CHURCH OF THORNEY

p. 319a, fo. 222b

IN GRAVESEND HUNDRET

In SALWEBRIGE [Sawbridge] Turchil holds of the abbot 5 hides. There is land for 5 ploughs. There are 12 villeins and 5 bordars, with 4 ploughs, and (there are) 8 acres of meadow. It was worth 50 shillings; now (it is worth) 60 shillings.

THE LAND OF THE COUNT OF MELLEND

p. 329b, fo. 224

IN GRAVESEND HUNDRET

The same Count of Meulan (*Mellend*) holds BERCHEWELLE [Berkswell¹] in demesne.² There are 4 hides. Of these he has 3 hides in demesne.³ There is land for 8 ploughs. In demesne there is 1 (plough), and 4 serfs; and 7 villeins, with 3 bordars, have 1 plough. There (are) 5 acres of meadow. Wood(land) 1 league in length and 1 league in breadth. It is worth 40 shillings.

The same count holds in WITACRE [Whitacre] half a hide (which is) waste, and it is worth 12 pence. Levenot held these lands freely T.R.E.

¹ See also p. 314 above.

² See the Domesday Note.

THE LAND OF WILLIAM SON OF ANSCULF

p. 340a, fo. 226

IN OPTONEGRAVE WAPENT[AKE]

William, son of Malger, holds of William 1 hide in WAVRE [Over³]. There is land for 2 ploughs. In demesne there is 1 (plough), with 1 villein. There (are) 4 acres of meadow. Wood(land) 1 furlong in length and half a furlong in breadth. It was and is worth 10 shillings. Ulwin⁴ held it freely T.R.E. as did (the) others.

THE LAND OF GILBERT DE GAND

p. 346b, fo. 227b

IN WILEBROC HUNDRET

Rotbert holds of Gilbert WICFORD [Whichford⁵]. There (are) 15 hides. There is land for 19 ploughs. In demesne there are 4 (ploughs), and 10 serfs; and 33 villeins and 21 bordars have 15 ploughs. There (are) 2 mills rendering (*de*) 15 shillings, and 3 furlongs of meadow in length, and as much in breadth. Wood(land) 1 furlong in length, and as much in breadth. It was worth 10 pounds; now (it is worth) 20 pounds. Wlf held (it) freely T.R.E.

³ See note 3 on p. 309.

⁴ Probably his predecessor at Birmingham.—J.H.R.

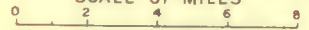
⁵ See p. 295 above.

REFERENCE.

- Class A, B¹, & B²
- " C
- ⊙ " D & E
- ◻ " F
- ▬ " G¹
- ▬ " G²
- △ " Undetermined

For description of classes see p. 348.

SCALE OF MILES



ANCIENT DEFENSIVE EARTHWORKS

HERE and there, up and down the length and breadth of our land, even the most casual observer must have noticed certain great grassy mounds and high heaped banks of earth, often accompanied by long and deep trenches, all of which strike the eye as being necessarily of artificial origin. Many of these banks and ditches still enclose some specific area ; others again, and these the majority, seem to have no definite use or object, and though in contiguity often appear quite unconnected with one another. In either case they are for the most part the remains of earthworks which were constructed by former inhabitants of the district for defensive purposes.

Sometimes these entrenchments are of very imposing dimensions, with great earthen ramparts and ditches encircling the flat top of a hill or a lowland area of considerable extent ; they are then often known as ' burys,' ' camps ' and ' castles,' and their construction is ascribed to Dane, Roman, or other people of bygone days, or else some curious legend is connected with them, giving an earlier and even mythical origin.

Defensive earthworks of one kind or another have been made and used by well-nigh every race of mankind ; they date from the present day, back through successive ages, to those far off prehistoric times when war was waged between man and man with primitive weapons of flint and stone.

The most recent military forts, built to resist twentieth century artillery are scientifically designed earthworks, consisting of steep grass-covered ramparts protected outwardly by deep ditches. Such works now form the defences of the most strongly fortified cities in Europe. During the middle ages great structures of masonry, instead of earth, were erected in most civilized countries for similar purposes, as the strong walls of many old towns and the imposing castles scattered over the land abundantly testify. But prior to this again, and back to very early times, the chief method of defensive fortification was by earthworks supplemented by palisading. Each of the different races and peoples which has successively invaded our island has settled down for protection within the shelter of some kind of earth-built fort : Normans, Danes, Saxons, Romans, Celts, back to the tribes of the Bronze and Stone ages, have all constructed earthworks, of which traces are still to be seen in different parts of the country ; and it is curious to note that although there have

A HISTORY OF WARWICKSHIRE

been many variations in the form and design of these works during this long period of time, some of the great prehistoric hill fortresses of the Stone and Bronze Ages quite startlingly resemble in outward appearance the above mentioned military defences of the present day.

Speaking in general terms a defensive earthwork was originally formed by the excavation of a ditch or fosse round a given area, the earth being piled up inside to form a raised bank, rampart or vallum. This bank was often increased and strengthened by turf sods or rough stones, and along its top a strong fence was erected, usually made of horizontal logs of timber or of upright wooden stakes interlaced with wattle work. Sometimes stones were used for the fence instead of wood, if they happened to be more abundant than trees in the vicinity. Of course all vestiges of the perishable timber work have long ago disappeared from our ancient earthworks, and stones, in the majority of cases, have been removed for the making of field walls in later days. Such an entrenched enclosure was usually placed on some point of vantage, varying according to the particular ideas of its makers ; it was often at the top of a high hill, or else upon a slight elevation protected from attack by water and swampy marsh ; sometimes it was but in a hollow for the sake of shelter, different races and peoples having a predilection for very different situations. In the majority of instances the dwellings of the makers of the stronghold were collected within its interior, but occasionally, as in the case of the larger prehistoric ' camps ' on the exposed tops of steep hills, their circular huts were clustered in some sheltered hollow hard by. These early hill strongholds had much in common with the lately extinct *pa* of the Maories in New Zealand, while the forts on lower ground were not unlike the fenced villages still to be seen among savage tribes in various parts of the world.

Warwickshire has numerous remains of ancient defensive earthworks. Some are well preserved and of sufficiently imposing dimensions to attract the notice of every passer by ; very many however are mere worn and damaged remnants of former considerable entrenchments, relics of the past which require the eye of an archæologist to discover them, or at any rate to distinguish them with certainty from mere natural features of the ground.

Time has a very destructive effect upon these remains. Rain and frost are continually at work disintegrating the material of artificial mounds and ramparts, gradually making them lower and smaller.¹ Ditches again are continually becoming wider and shallower through the same agencies ; not only do they tend to get filled up with the soil washed down from the banks above, but dead vegetation accumulates in their hollows and raises the levels within for many feet,² as has been shown by excavation. Instead of ramparts and ditches round a camp we sometimes now find a series of terraces, as for example at Brownsover and at Gredenton Hill, which would aid rather than hinder its assailants ; this of course was no part of the original

¹ See under Seckington, p. 390. ² See Chesterton p. 366.

ANCIENT DEFENSIVE EARTHWORKS

design, but is the result of the natural changes above described. But the greatest destroyer of these interesting memorials of the past is undoubtedly man—the agriculturist and the builder. A good farmer discovers that the light rich soil in a mound or bank would make excellent material with which to top-dress a clay field, and he forthwith digs into it and carts it away. Again, a great bank and ditch may stretch across his cornlands and greatly impede the use of the plough or steam cultivator, and he promptly sets to work to level the one into the other, with very sad results for the archæologist. Even in the absence of such measures on the part of the occupier of the land, wherever the ground within the area of an earthwork has been continuously cultivated for hundreds of years, as is often the case, the natural action of the plough tends to flatten the ramparts and to wear away the sides of the ditches and make them wider and shallower. So that in this way camps are not only gradually being destroyed but their defences are meanwhile materially altered from their original form. In such a highly cultivated county as Warwickshire the ancient earthworks have unfortunately suffered greatly at the hands of the farmer; this may be particularly noted in the descriptions which follow of the remains at Beaudesert, Beausale, Brownsover, Corley, Chesterton, Edgbaston, Mancetter, Lapworth, Solihull, Ratley, and elsewhere; indeed, not only have several of the works described by Hutton as extant a hundred years ago in the neighbourhood of Birmingham apparently disappeared, but many of those mentioned by Burgess as recently as 1875, have since become very ill defined or have even entirely vanished. In Birmingham and other towns building operations have of course obliterated many early works.

Though frequently therefore much changed in appearance and often but mere remnants of what they once were, the ancient defensive earthworks of the county are fairly numerous and are also very varied both in form and in choice of site; they have probably been constructed by many distinct peoples and at widely different dates. Unfortunately however no systematic excavation has ever been undertaken in connection with them, and without this it is quite impossible to determine the age of particular remains with accuracy. The adjoining county of Northampton has been more happy in this respect, its celebrated camp known as Hunsbury having been thoroughly explored by aid of the spade with very notable results.

Defensive earthworks have for convenience of description been divided into certain easily recognizable types, based mainly upon their form and situation.¹ Before any description of local examples is given, it may be well therefore, for the clearer understanding of the subject, to sketch briefly the characteristics of these varieties.² After this we shall

¹ *Scheme for recording Ancient Defensive Earthworks*, pub. by Congress of Arch. Societies in Union with the Society of Antiquaries in London, 1903.

² Epitomized in 'Early Defensive Earthworks,' by I. Chalkley Gould, in *Brit. Arch. Assoc. Journ.*, 1901, to which article the writer is much indebted.

A HISTORY OF WARWICKSHIRE

be better able to see how far the less perfect remains extant in Warwickshire may agree with finer examples found elsewhere, and then it is hoped that more definite ideas as to their origin and use may be possible. It must always be borne in mind that knowledge of the subject at the present day is quite insufficient for the compilation of a strictly chronological table of earthworks; and the difficulty of doing this is increased by the fact that the earlier forms were reproduced again and again through long periods of time, and that the works themselves were frequently occupied by successive invaders of different races, who made alterations in their defences to accord with their own particular ideas upon the subject of fortification.

In the Stone and Bronze Ages in Britain, men dwelt for the most part upon the higher ground, the lowlands being probably little else than impenetrable forest or dismal marsh and unhealthy swamp. The latter formed excellent hunting grounds, but they were quite unsuitable for permanent habitation. On the hills therefore, which were always comparatively dry and open, we look for remains of the earliest defensive earthworks.

Passing over those vague banks and shelters found in many mountainous parts of the country, which still await careful exploration and may possibly prove to be the earliest extant earthworks, we commence with—

(A) Certain strongholds found upon the summits of high rocky hills in various parts of the country, the defences of which are chiefly the natural ones of crags and precipices, any weak side being fortified by ramparts and ditches. The entrance to such a fortress is usually by a difficult path winding up the rocky face of the hill. Being one of the simplest, this is probably one of the earliest types of large strongholds defended by earthworks. Of this description are the well known 'camps' at Carl's Wark and Comb Moss in Derbyshire and Cleeve Camp in Gloucestershire, but we have no similar fortress within the confines of Warwickshire. The camp on the top of Corley Rocks has some features in common with this variety, but in other ways it corresponds with a much later form.

(B¹) Another kind of stronghold is that in which earthworks surround the summit of a hill. The defences consist of one, two, and sometimes even three, ramparts and ditches; these ramparts, as previously mentioned, were originally strengthened by having a palisade of wood or sometimes a rough wall of loose stones upon the top. Characteristics of this particular variety of camp are, firstly, that the earthworks follow the natural contours of the hill; and secondly, that the entrance is generally rendered difficult and intricate, by winding in and out among complicated artificial banks and ditches.

Some of these hill fortresses are very large and even now most imposing; they were often engineered by their makers with marvellous skill, so that from their airy ramparts the defenders could sweep the slopes below with their sling-stones, javelins and arrows, and easily keep

ANCIENT DEFENSIVE EARTHWORKS

an enemy at bay. Near these great strongholds the dwellings of the people, consisting of circular huts half buried in the ground, are frequently found grouped together in some secluded hollow. As among savage races at the present day, the population in Britain in these early times was split up into numerous small tribal communities, which were perpetually at strife with one another ; whenever danger approached, the whole tribe, with all their flocks and herds, would leave their dwellings in the vales and take refuge in their stronghold on the hill above. The frequent absence of water within the area of these 'camps of refuge' has been remarked upon ; but there is little doubt that, as was formerly the custom among the aborigines of New Zealand, the women of the tribe carried up a supply in earthen vessels, in anticipation of the temporary occupation of the fortress.

Many of the camps of this description have been proved to belong to the Bronze age, and some apparently date still further back ; but as successive peoples have so often made use of a previously existing design in the construction of their fortresses, careful excavation in any particular earthwork is the only method of arriving at its age with even approximate accuracy.

Well-known examples showing the features usually associated with this class of hill fortress are the earthworks on Mam Tor in Derbyshire and at Maiden Castle in Dorset. Camps of this type on a large and imposing scale are found upon many of the highlands surrounding the Avon valley, though beyond the actual confines of Warwickshire ; such are the deep entrenched strongholds upon the Malvern Hills, the great camp with ramparts nearly three miles in circumference at Burrow Hill, Daventry, the enormous earthworks on Meon Hill on the Gloucestershire border, and the lesser camp on Burrow Hill near Leicester. As far as one can judge by appearance in the absence of excavation, Warwickshire can show somewhat similar remains, but upon a smaller scale and much worn, on the Edge Hill at Ratley. All traces of the circular hut village, which was once doubtless associated with such a fortress, have long ago disappeared in this highly cultivated county. In Worcestershire, on the contrary, where the surface of the ground on Malvern Chace has never been disturbed by the plough, large numbers of such ancient dwellings may still be seen, hidden away among the brushwood, below the great camp on Midsummer Hill.

(B^{II}) As a subdivision to this class we have earthworks somewhat resembling the last, but smaller in size and differing in various details. These camps are not found upon the high tops of hills, but usually upon some ridge or slight eminence on lower ground ; they are frequently near a river, and often in the triangular space above the junction of two streams ; here the swamps and morasses which in former days were wont to stretch far and wide on either side of every watercourse, formed an admirable natural defence. The ramparts of these camps do not follow the natural contours of the ground so much as those previously described, but are more artificial in form ; they are often oval or round, or some-

A HISTORY OF WARWICKSHIRE

times they have more or less rectangular corners and straight sides. Their entrances are not made intricate and tortuous, but are straight cuttings in the encircling defences. Sometimes the ramparts and ditches are double, but often they are only single. The huts of the people were usually placed inside the area of this type of fort, which was thus a permanent dwelling place, in contradistinction to the camps of refuge last described. Although these two extreme types are thus distinct in character, it must always be remembered that one form merges gradually into the other, and that many extant remains have features in common with both and are intermediate between them ; this is particularly noticeable in the county of Warwick.

A far-famed example of this class of camp, which is to be seen quite close to Warwickshire at Hunsbury near Northampton, has had the good fortune to be thoroughly excavated and explored.

Form alone, we must always remember, is no criterion of age ; but, nevertheless, the oval camps at Beausale and at Claverdon in this county in many ways resemble that at Hunsbury—would that the spade could be brought to bear within their area. As local examples of camps of the present class with angular corners, the entrenchments at Ipsley, at Lapworth and at Tachbrook may be cited, with perhaps those at Corley ; but this only as far as we may dare to judge simply by appearances.

Our knowledge of the details of these earthworks of the ancient Britons is, of course, based almost entirely upon the evidence of archæology ; nevertheless with the dawn of history in the land on the advent of the Romans, we catch an occasional glimpse of such camps in contemporary writings. Cæsar describes the towns of the Britons as ‘splendidly fortified by nature and art,’ and Strabo speaks of them as defended by palisades of ‘hewn down trees’ fencing round a ‘circular space,’ within which they erected huts for themselves and stalls for their cattle.

Although we know that forts of this kind were constructed as far back as prehistoric times, we must bear in mind that they were also copied and used in much later days. In Celtic Ireland, for instance, the remains of thousands of these ‘raths,’ as they are there called, may be seen all over the lowlands, and Spenser, writing in the time of Elizabeth, describes how the people then still lived in small tribal communities within their shelter in times of war, while in peaceful days they wandered forth with their flocks and herds to the upland pastures.

(C) We now come to quite a different variety of earthwork. Instead of the often large sized and irregularly shaped camps of prehistoric days, which were generally either placed upon a hill or defended by water and marshy ground, we find small square or oblong earth-forts situated on an open plain or sometimes even in a hollow. These entrenchments were evidently constructed for purposes of offence rather than for defence ; they have a clear space all round, so that a body of drilled soldiers could rapidly issue forth to battle ; they were often placed near to a stream for the sake of a water supply. The ramparts of

ANCIENT DEFENSIVE EARTHWORKS

these works are of lesser height than those of previously described camps and their ditches are not so deep. No tortuous or difficult entrances are now seen, but always straight cut gateways, usually in the centre of each side of the square. Many of these earthworks are relics of the Roman military occupation of Britain.

A typical example of such a Roman fort is the almost square camp (measuring 336 by 366 feet), with its four gateways, at Melandra near Glossop in Derbyshire. Another is the oblong entrenchment at Ratby in Leicestershire. In Warwickshire the earthwork at Mancetter is a good example of the oblong form of Roman camp, and the remains at Chesterton may possibly be Roman also.

There is little doubt that the legions often temporarily occupied the strongholds of the conquered Britons; in this case they probably altered and added to the defences to make them more in unison with their own ideas. Hence we sometimes find a small square Roman fort placed in the corner of a large prehistoric camp; oftener still we find new gateways, after the model of those in their own camps, cut through the ancient ramparts, and the latter remodelled with straight sides and rectangular corners. Perhaps this may explain features in connection with the prehistoric camps at Oldbury, at Corley and elsewhere in Warwickshire.

(D) The earth forts of the Teutonic settlers in this country differed both from the above described camps of the tribal Britons and from the military forts of the Romans. They were smaller than the first named, being the headquarters of a family only, the fortified dwelling of a powerful lord and his household.

Remains belonging to this period consist of a conical mount, varying from 10 to as much as 60 feet in height, and surrounded by a ditch or moat, which was once filled with water; the top of the mount is flat, or sometimes saucer shaped, and it occasionally shows traces of a raised rim of earth all round.

(E) Abutting upon the ditch upon one side of this mount a crescent-shaped enclosure or courtyard is often seen surrounded by rampart and moat; it generally covers an area two or three times as large as that of the mount. Beyond this again there is sometimes a second and still larger enclosure, similarly defended by entrenchments; and in a few instances there is yet a third and much more extensive court, partly surrounding the smaller ones. These considerable additions to the mount fort were made to afford protection to retainers and shelter for flocks and herds.

For a long time the nature of these two classes of moated mounts was not understood by archæologists; they were thought to be large sepulchral tumuli, and as such they are often marked in the maps of the ordnance survey; the earthworks around the courtyards, when present, were moreover, thought to be the remains of prehistoric fortresses.

Moated mounts, similar to those so numerous in England, are also found in Flanders and in Normandy; and the celebrated Bayeux

A HISTORY OF WARWICKSHIRE

tapestry, supposed to have been worked in the eleventh century, gives a curious contemporary representation of the fort at Dinan in the latter country, which greatly helps us to understand the mode of construction and former appearance of such works. In the centre of this interesting needlework picture is seen the conical mound of earth surrounded by its moat, outside of which is a gate guarded by turrets, apparently of wood; from this gate a ladder-like bridge crosses the moat to a tower, which also appears to be of timber, and is half-way up the side of the mount; above this again is a strong enclosure or keep, the stockades of which encircle the top of the earthwork. Round the inside of this timber palisade runs a fighting platform of earth for the defenders to stand upon, and within the stockaded keep is a timber-built house. Soldiers are seen attacking the fort from without, while others defend it from behind the palisades. This remarkable picture shows that the first defences of these moated mounts were of timber, and not of masonry, which the newly heaped up earth would not be solid enough to bear; it also explains the object of the rim of earth which is often found, as at Castle Bromwich, round the top of the mount, and which is evidently a portion of the fighting platform within the stockade or keep. The outer court or bailey, so frequently found in England, is not shown in the picture of the Dinan fort. As in the case of the earlier camps, the original timber defences of these moated mount and court castles have long ago disappeared.

It is not necessary to go outside of Warwickshire for a good example of this particular type of earth fort. For few finer specimens are to be seen anywhere than that at Brinklow, which is also singularly well preserved, with its large moated mount and outer as well as inner courts. Seckington and Castle Bromwich are also excellent examples of these mount and court forts once defended by stockades of timber, neither of them showing any traces of masonry; smaller and less perfect specimens are to be found at Fillongley and at Kineton.

While the original forts of this class were undoubtedly protected by timber defences only, many years after they were first constructed, and when the earth had had time to settle down and get solid, some of these moated mounts and their accompanying ramparts were built upon, and became incorporated in mediæval castles of masonry; the latter are usually based upon the same ground plan of tall keep and outer court or bailey. Locally this has been done at Tamworth, at Warwick, at Kenilworth and in many other instances.

Although the typical courtyards found attached to these moated mounts are more or less curved and rounded in shape, as at Brinklow and at Seckington, examples are occasionally found of rectangular form; such are the courts at Tamworth, at Warwick and at Castle Bromwich; they have been supposed to represent the remains of some earlier fortress which has been utilized by the makers of the later stronghold.

Finally, who were the people who first constructed these moated mount and court forts? Few archæological questions have been the

ANCIENT DEFENSIVE EARTHWORKS

cause of greater controversy; champions have been eager to ascribe them exclusively to the Saxon, to the Dane and to the Norman. The balance of probability would seem to be that this type of stronghold originated in its simpler form in Saxon times, as is the traditional record of the two 'Ethelflæda's mounts' at Tamworth and at Warwick; while there is no doubt that many existing remains (especially those with courtyards) date from Norman days, either, in the words of Mr. Gould, 'from the time of the Conquest, or as late as the days of anarchy when Stephen was reigning but not ruling.' During his reign so many fortified strongholds were constructed by the landed proprietors, that his successor, Henry II., thought it advisable to destroy no less than 1,150 of them; and after that no castle could be built without a royal licence to 'crenellate' or fortify. It is also quite possible, of course, that in certain instances the makers of these forts may have utilized for their mount or keep an earlier sepulchral tumulus which they found ready to hand; this has been suspected at Brinklow, but excavation can alone decide such a point.

(F) We have now to notice yet another form of earthwork, viz. the moated enclosure without a mount. In this case the earth dug out from the moat was either spread over the surface of the enclosed area, raising it above the level of the surrounding land, or else, but more rarely, used to form a rampart round the inside.

These 'homestead moats,' as they are called, usually enclose areas ranging from a half to two acres, but are sometimes more extensive. They differ greatly in form; one variety is very similar to the moated mount, but with only a flat raised platform inside instead of a conical hill, as may be seen at the site of the old manor house near the church at Maxstoke; another has the above-named slight rampart round the edge of the platform, as, for example, at 'Castle Hills' Fillongley, at 'The Mount' Cheswick Green near Solihull, at Ladbroke, at 'Kent's Moat' Sheldon, and at 'Hob's Moat' Solihull.

While some, perhaps the earlier ones, are circular, the great majority of these moated areas are either square, oblong, or of various irregular shapes; some are single, as those named above; some are double, either one within the other, as Peddimore near Sutton Coldfield, Ward End near Birmingham, Hob's Moat (formerly) and Salford Priors, or lying side by side as Court Farm at Fulbroke near Sherborne. Occasionally we find a group of moated enclosures placed near to one another, as at Horston Grange near Nuneaton, while in a few instances, as at Great Wolford and perhaps at Wappenbury, a whole village is surrounded by a fosse.

All these varied forms merge gradually and almost imperceptibly into one another, but they no doubt represent different designs in vogue at considerably distant intervals of time. Some may have originated in Saxon days as a protection against the marauding armies of the Danes, and possibly others were made for defensive purposes as late as the reigns of Stephen, John and Henry III., when intestine wars harrowed the

A HISTORY OF WARWICKSHIRE

country ; the subject is well worth the investigation which it still awaits.

There are at least 150 of these 'homestead moats' in Warwickshire. Sometimes the ancient dwelling-place which once stood within the protected area, and which was probably of wood, has entirely disappeared, as at Kent's Moat, Cheswick Green, Hob's Moat, Ladbroke and elsewhere. But, for the most part, an ancient manor house or fortified mediæval mansion still stands upon the water encircled island. This is often, of course, not nearly so old as the moat, which may have seen several successive edifices erected in course of ages upon the site. Notable local examples of these often picturesque moated houses are Baddesley Clinton, Astley Castle near Nuneaton, Maxstoke Castle and Compton Wyniates.

(G¹) In connection with many mediæval castles, artificial banks of earth are found surrounding areas now dry but which were originally covered by sheets of water which they served to dam. These broad water defences, which differ from the ordinary moat, were fed by some neighbouring stream, and were often very extensive, as well as most elaborately engineered with channels and sluices. Conspicuous examples of this are to be seen in the dams of the great artificial lake, with its extensions, which once existed at Kenilworth Castle, and also at Brandon Castle.

(G¹¹) While the various earthworks previously described served to defend an enclosed area, 'dykes and ramparts' and earthen 'walls' are sometimes found running in a more or less continuous line across country for many miles. Well known examples of these are the 'Wall' of Antoninus, reaching across Scotland from the Forth to the Clyde, the triple ramparts in front of Hadrian's Wall in Northumberland, and the great Offa's and Watt's Dykes upon the Welsh border. They were probably constructed partly for defence and partly to serve as boundaries. In Warwickshire the ramparts at Loxley, though short, are apparently of this type.

Lastly, on account of their outward similarity to defensive earthworks, some mention must here be made of the great earth-heaped sepulchral tumuli of prehistoric days. We have many of these burial mounds in Warwickshire, and they are not always easy to distinguish from worn examples of moated mount forts ; in fact many of the latter have frequently been misnamed 'tumuli,' even when encircling moat and adjoining court showed a different origin ; when the moat has disappeared, the spade alone can decide between the two ; even then it is always possible that the makers of a certain fort may have incorporated in it an ancient sepulchral mound, which they found ready to hand upon the spot. Notable examples of tumuli in Warwickshire are, or were (for some are now destroyed), at Butler's Marston, Combe, Churchover (Pilgrim's Low) near Hartshill, King's Newnham, Ruyton (Knightlow), Rugby, Wibtoft (Cloudsley Bush), Wolston and elsewhere.

ANCIENT DEFENSIVE EARTHWORKS

In the following pages the most important earthworks extant in Warwickshire are described under the names of the parishes where they are found, and these, for facility of reference, are placed in alphabetical sequence. The arrangement under parishes has been adopted, to avoid the confusion which has previously been brought about by various writers calling the same remains by different names.

In order to find the account of any earthwork in a particular district, the map must first be consulted for the name of the parish where it is situated, and reference should then be made to the latter in the text.

The list does not pretend to be in any sense a complete one ; for the compilation of this much more time would be necessary than is at the writer's disposal. Nevertheless it is hoped that it may serve to give an idea of the field which is open to future explorers, who may, in consequence, be attracted to work out the subject in detail. And, further, in view of the rapid destruction of these valuable monuments of the past which is continually in progress, it is also hoped that this article may direct local attention to the existence of these interesting remains, and may thus lead to more care being taken of them in the future.

The writer begs to thank many who have given him much valuable information and assistance, including Rev. J. Harvey Bloom, Mr. Jethro A. Cossins, Mr. Alfred Hayes, Mr. Howard S. Pearson, Rev. W. H. Payne-Smith, and especially Mr. I. Chalkley Gould.¹

BARMOOR. See Claverdon.

BEAUDESERT (by Henley-in-Arden).—On a steep hill called ‘The Mount,’ just east of the parish church of St. Nicholas, are remnants of the earthworks of an ancient castle ; they consist of a moated mount with traces of courtyards defended by ramparts and ditch (see class E, described p. 351).

‘The Mount’ forms a promontory, jutting towards the little river Alne, from a ridge of high ground running north and south ; it rises to an altitude of about 300 feet above sea level. The site is by nature a very strong and commanding one ; from it the Edge Hills and the Malverns may both be plainly seen. The church and the few houses which comprise the village are at the foot of the hill by the side of the stream ; from the church the road winds round the south side of the hill to the entrance of the courtyard on the top of the first elevation.

¹ The plans are drawn to scale on the basis of the 25 inch Ordnance Survey of 1883 ; details are frequently filled in from other sources, sometimes from earlier plans and notes showing features which have since become indistinct and obliterated. The following abbreviations are used to indicate publications referred to in the text, viz. :—

Burgess' *Warw.* . . = Burgess' *Historic Warwickshire* (1875).

Clark's *Mil. Archit.* . = Clark's *Mediæval Military Architecture* (1884).

Dugdale's *Warw.* . . = Dugdale's *Antiquities of Warwickshire* (Coventry ed. 1765).

Dugdale's *Warw.* . . = Dugdale's *Antiquities of Warwickshire*, with MS. additions by William Hamper's copy) Hamper, in the British Museum Library.

Dugdale's *Warw.* . . = Dugdale's *Antiquities of Warwickshire*, with MS. additions by Matthew Bloxam's copy) Holbeche Bloxam, F.S.A., in Rugby School Library.

Hutton's *B'ham.* . . = Hutton's *History of Birmingham* (3rd ed. 1806).

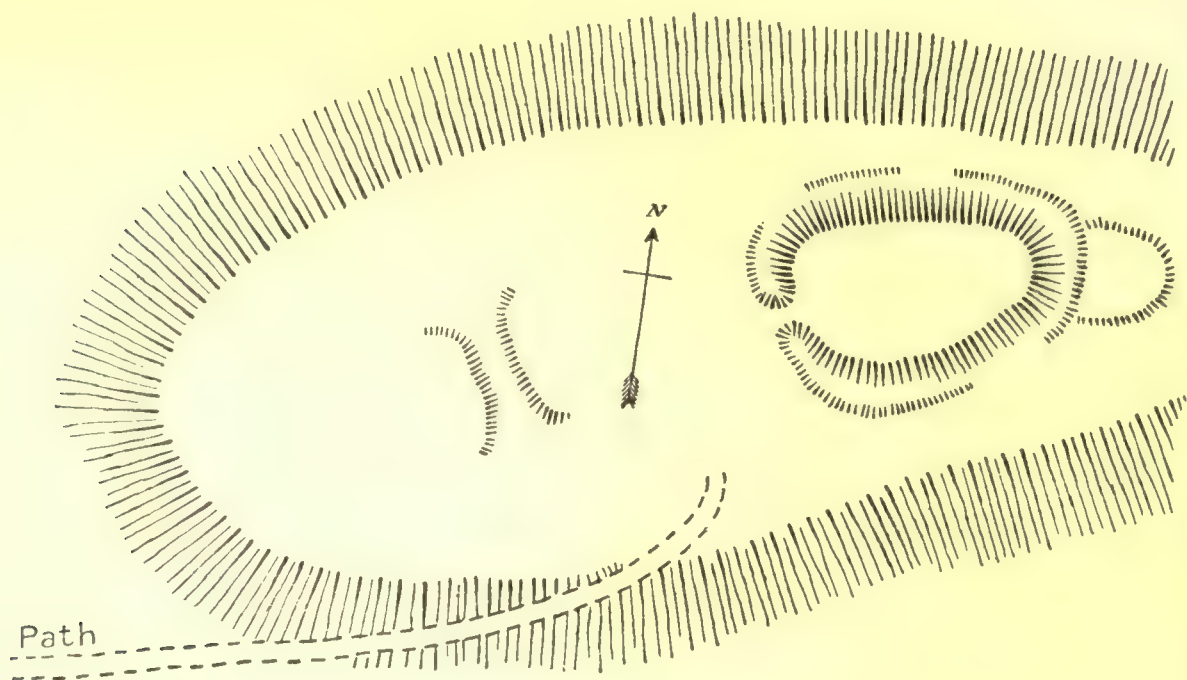
O.S. = Ordnance Survey.

Timmins's *Warw.* . . = Samuel Timmins's *History of Warwickshire* (1889).

Turner's *Shaks. Land* = Ribton-Turner's *Shakespeare's Land* (1893).

A HISTORY OF WARWICKSHIRE

The extant remains of the castle consist primarily of a flat topped oval artificial mound surrounded by a ditch, covering altogether an area of about 2 acres ; a raised bank of earth crossing the ditch to the south-west connects this moated 'keep' with its accompanying courtyard. At 250 feet distance beyond this entrance another ditch runs across the flat top of the hill from north-west to south-east ; this appears to have formed a division between two courtyards, an outer and an inner one. The defences which formerly encircled these courts are now barely traceable, for the earthen ramparts have in the course of ages gradually been demolished and the ditches become filled ; indeed, so far back as



BEAULESERT

SCALE OF FEET
0 100 200 300

250 years ago Dugdale wrote : 'The Trenches themselves, notwithstanding their great Depth and Widenesse, are so filled up, as that the Plough hath Sundry Times made Furrows in every part of them to the Great Advantage of the industrious Husbandman whose Pains through the Ranknesse of the Soil hath been richly rewarded with many a plentiful Crop.' There are now no signs of stonework to be seen, though Dugdale's words that 'there is not only any one Stone visibly left upon another' would seem to imply that in his day there were some remnants of masonry extant upon the mount.¹ The limits of the present article do not admit

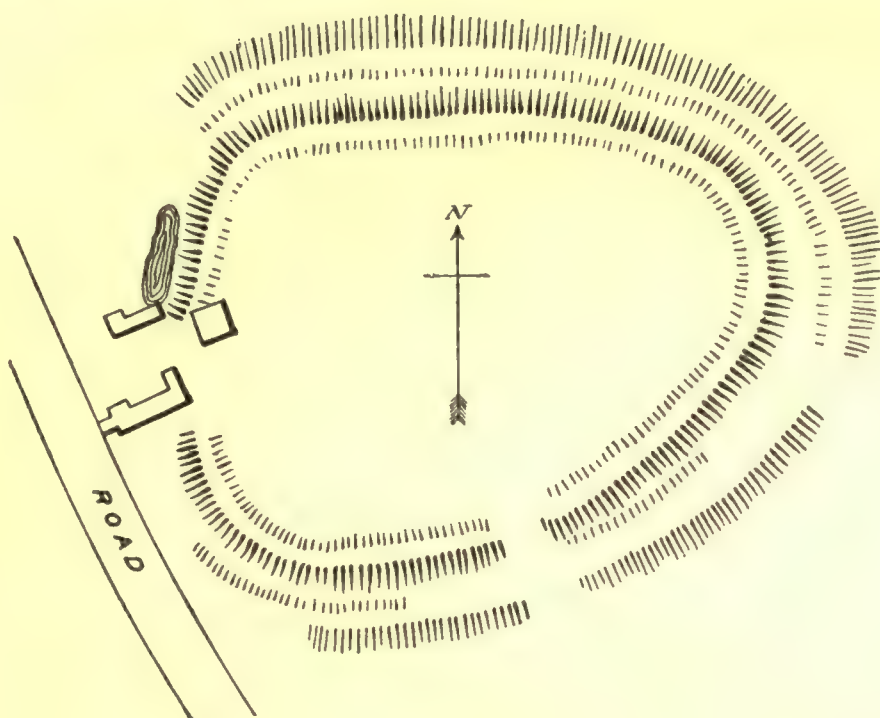
¹ Dugdale's *Warw.*, pp. 559-65 ; Burgess in *Brit. Arch. Assoc. Journ.* (1873), p. 41 ; Turner's *Shaks. Land*, p. 191 ; Timmins's *Warw.* p. 235 ; Hannett's *Forest of Arden* (1863) p. 158.

ANCIENT DEFENSIVE EARTHWORKS

of the histories of these moated mount castles being entered into ; they will be dealt with in later topographical sections.

BEAUSALE (4 miles north-west of Warwick).—The somewhat worn remains of an oval entrenchment are to be seen upon an eminence called Camphill in this hamlet, about $1\frac{1}{4}$ miles south of Honiley parish church ; a farmhouse stands just within it at the end nearest the high road.

The camp is situated upon a little hill which projects eastwards from the ridge of high ground running from Honiley to Haseley ; it overlooks the valley along which the Inchford brook takes its course towards Kenilworth a couple of miles away ; it has an extensive



BEAUSALE
A.D. 1837 after Bloxam

SCALE OF FEET
0 100 200 300

prospect. In form the earthwork is roughly egg-shaped, with its broadest end towards the west ; it has a raised interior plateau of about $5\frac{1}{2}$ acres, which is surrounded by a rampart, now much worn ; beyond this is a wide ditch, evidently far less deep than it once was, and outside the latter, remains of a second rampart are discernible here and there, more especially upon the north and east ; some parts of the ditch contain water. These defences have become much less imposing during the last three-quarters of a century, owing both to the effects of natural denudation and to the operations of the agriculturist ; a plan

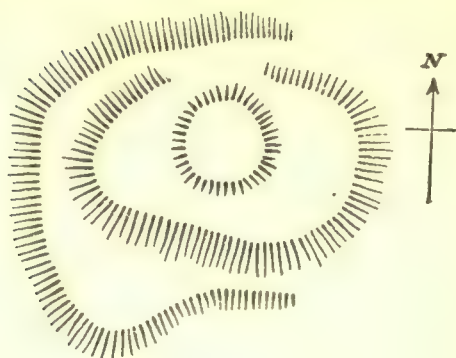
A HISTORY OF WARWICKSHIRE

made in the year 1837 shows the outer vallum encircling about two-thirds of the camp, and another, made probably a few years later, marks this outer rampart as intact along the whole of the northern and eastern sides.¹ Burgess records that a subterranean chamber was discovered within the area of the entrenchment some years prior to a visit which he paid there in 1872 ; he suggests that this might have been for the storage of grain, as was the practice in the raths in Ireland.²

As far as can be judged from outward appearances only, these remains would seem to correspond with the class of earthwork described above under letter B^{II}, and in various particulars they resemble the celebrated camp excavated at Hunsbury near Northampton.³

BOURNBROOK.—See Edgbaston.

BRAILES (12 miles south-east of Stratford-on-Avon).—At a height of nearly 500 feet above the sea level, within the village of Upper Brailes and three-quarters of a mile north-west of the magnificent church of St. George belonging to Lower Brailes, is a detached artificial mount surrounded by entrenchments and called the ' Castle Hill.'



BRAILES.

SCALE OF FEET
0 100 200 300

These earthworks lie upon the southern slope of a considerable elevation which forms an eastern outlier of the great Brailes Hill rising upon the other side of the high road ; though not upon the actual top of the ridge, the site is a commanding one and overlooks the valley containing the lower village and the country beyond. The present remains, which are evidently much worn and altered, consist mainly of a central mount, which has a flat top some 80 to 90 feet in diameter ; this mount is sur-

rounded by earthworks in the form of an irregular oval ; beyond these again are further banks encircling the area upon three sides, but absent towards the east. The entire works cover nearly 3 acres. Mr. Burgess describing the site says : ' The Castle Hill is separated from the adjacent highlands by a valley which appears to have been a natural gap enlarged by the hand of man ; the adjacent hill is also fortified by terraces rising one above another and more apparent on the south side.'⁴

In the present eroded and altered state of the earthworks it is diffi-

¹ See drawings in Dugdale's *Warw.* (Bloxam's copy).

² Burgess in B'ham. and Mid. Inst. Arch. *Trans.* (1872), p. 86, and in Brit. Arch. Assoc. *Journ.* (1873), p. 41.

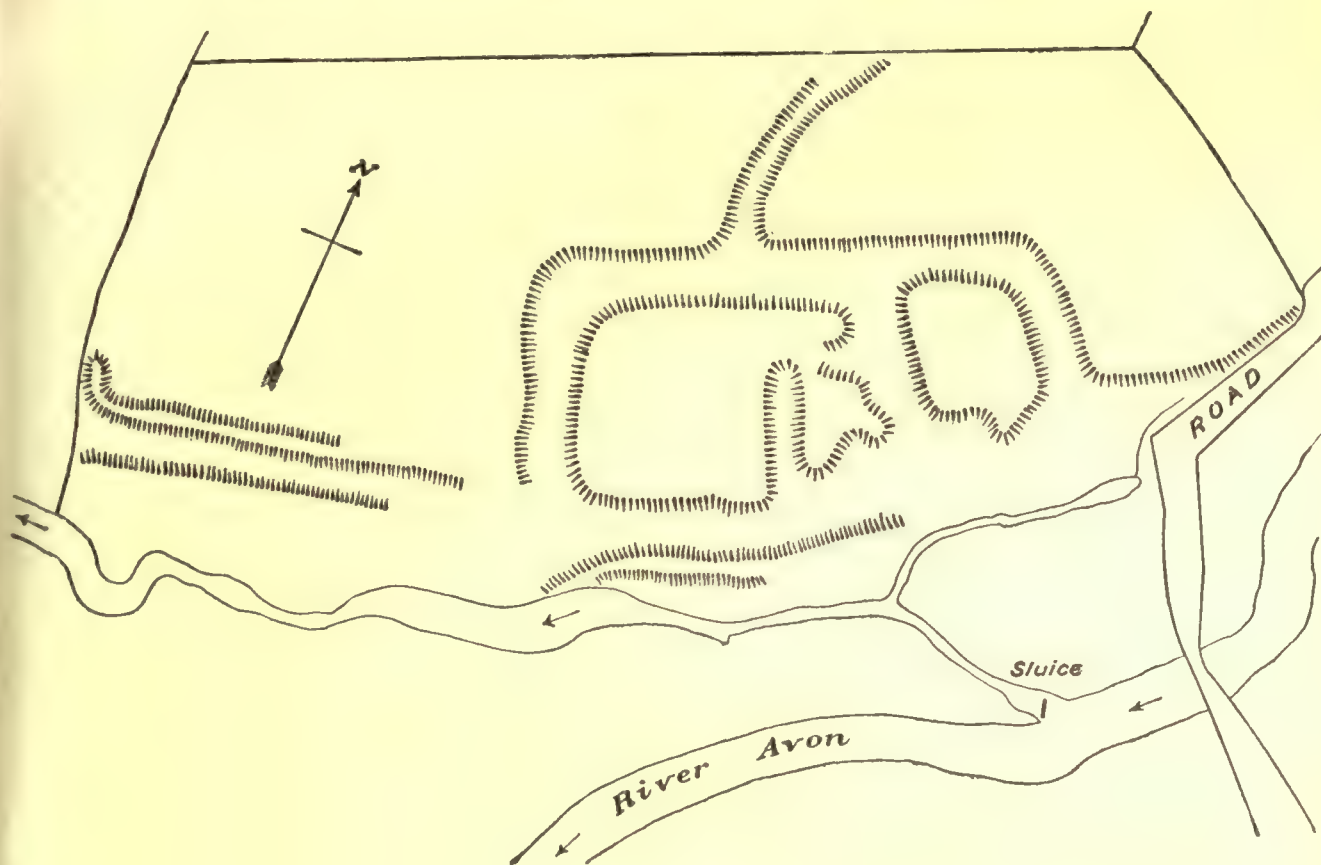
³ The only antiquities which are known to have been found here are two large iron cannon-balls which were unearthed near the farmhouse ; possibly they fell during one of the numerous fights around Kenilworth castle in the middle ages, or when the troops marched to Meriden in the troubles of 1745.

⁴ Burgess in B'ham. and Mid. Inst. Arch. *Trans.* (1872), p. 82.

ANCIENT DEFENSIVE EARTHWORKS

cult to say what they once were. Local antiquaries have suggested that they belonged to some mediæval fortress about which history would seem to be silent, or again that they originated in a far earlier age. It may be noted that the lord of the manor here in the time of Edward I. had a park of 30 acres, which would point to some residence of importance, most probably fortified, to which it belonged ; the local tradition which calls the mount the ' Castle Hill ' supports this idea.¹

BRANDON (half-way between Coventry and Rugby).—There are



BRANDON.

SCALE OF FEET
0 100 200 300

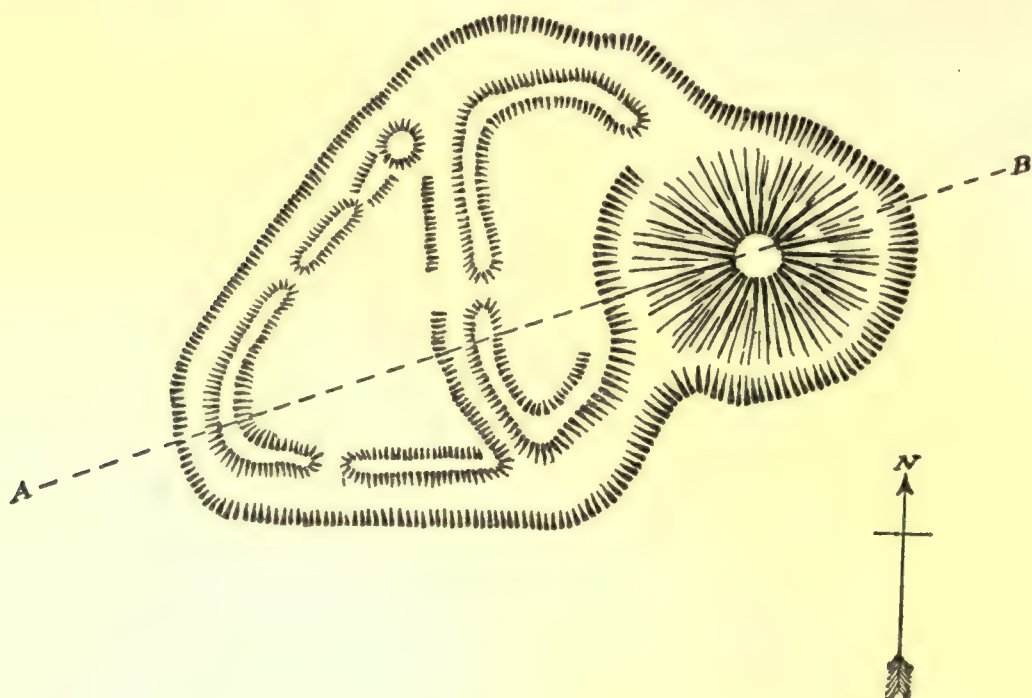
some very extensive earthworks between the railway station and the Avon in this parish, marking the site of the important mediæval castle which formerly stood here.

The remains are on low ground, often liable to be flooded, by the side of the river. The defences appear to have consisted largely of broad moats and sheets of water very similar to those at Kenilworth ;

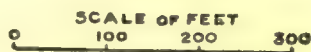
¹ Dugdale's *Warw.* p. 396 ; Bloxam in *B'ham and Mid. Inst. Arch. Trans.* (1875), p. 31 ; Turner's *Shaks. Land*, p. 355.

A HISTORY OF WARWICKSHIRE

they were dammed by a number of artificial banks and fed by sluices from the Avon. These works are very extensive, covering perhaps 6 or 7 acres. The central moated mount, upon which the castle itself stood, is an almost square plateau and contains nearly an acre ; it has irregular additions and another smaller raised square on the east side ; only frag-



BRINKLOW



N.B. The entrenchments of the large area to the south are outside of the limits of this plan

ments of walls of masonry now survive, and Dugdale wrote of it as merely 'Moats and Heaps of Rubbish' in 1656.¹

BRINKLOW (5 miles north-west of Rugby).—Above and to the east of the churchyard in this village are some very imposing and re-

¹ Dugdale's *Warw.* p. 32 ; Turner's *Shaks. Land*, p. 280 ; Timmins's *Warw.* p. 237.

ANCIENT DEFENSIVE EARTHWORKS

markable earthworks of the moated mount and court type. While many of the ancient earth forts of Warwickshire are now so worn away as to be easily passed over by the ordinary visitor, these remains, owing to their striking dimensions and excellent state of preservation, at once attract the eye of the most casual observer ; indeed Brinklow is as fine an example of this particular description of earth fort as can be seen anywhere within the kingdom.

The works occupy a strong position upon a short elevated ridge running from east to west, at the highest point, near its western extremity. The great artificial mount is a most conspicuous landmark for many miles ; five elm trees grow upon its summit, which commands magnificent views all round. The entrenchments are placed right in the line of the ancient Fosse Way, which crosses the Avon at Bretford a couple of miles to the south, and then ascends the slope towards them. The road disappears temporarily however before it reaches the fortifications, and whether it originally continued its usually straight course and passed through the site of the works, which some have thought were erected to block it, or whether it passed round the hill to the west, is difficult to determine. The low ground to the north-east was formerly a great lake, which, according to Dugdale, once extended down the valley from the Fosse road 'even unto the skirts of Newbold Revel.'

These very formidable looking remains consist in the first place of the typical mount or keep standing upon the highest point. To the west of this lies an inner court, defended by a rampart and ditch ; and beyond this again is a second and larger court similarly entrenched. The entire works cover an area of between 6 and 7 acres. The great mount itself is circular and conical in shape, and rises 40 feet above the level of the adjoining ground and 60 feet from the bottom of its excavated fosse ; its diameter is 260 feet at base, and its top is flat and measures 50 feet across. The ditch which surrounds it is well preserved, and is 20 feet deep and 40 feet broad. The two adjacent courtyards with their defences are on slightly lower ground ; they are enclosed by a great ditch, which branches off laterally from that which surrounds the mount. On the inner side of the ditch there is a rampart, from 30 to 50 feet broad at its base and from 10 to 20 feet high above the interior of the court, its broadest and highest parts being at the corners. The two courtyards are separated from one another by a second rampart with ditch, which runs across between them and at 125 to 150 feet distance from the fosse which encircles the mount. These dividing earthworks are smaller than those which enclose the united courts. The inner court is a long irregular oblong in shape, and the outer one forms a triangle. About 250 yards to the south of the main fort there are remnants of yet a further rampart and ditch, the latter filled with water for some 200 yards of its length ; these defences very probably enclosed a third and much larger court. Salmon, one hundred and seventy-five years ago, describes the remains as a large camp of 25 acres in extent,

A HISTORY OF WARWICKSHIRE

which must have included this southern area¹; some writers however have considered that these entrenchments represent a portion of a much earlier 'bury' or fortress. There are now three entrances into the courts, but it is doubtful whether any of them are ancient; there is also a passage leading from the inner to the outer inclosure. Possibly the original entrance to the fort was near its northern corner, where a small mound is to be seen upon the rampart. There is no spring visible within the area of the works, but some of the ditches or moats contain water.

The strength of this earthwork impresses every one even now, after its mount and ramparts must have suffered from many centuries of denudation and its ditches must have become partly filled up; but in its original state when the great mount or keep, encircled by its deeper moat, stood much higher, and was defended in all probability by tall wooden palisades, and when the ramparts of the outer courts were topped by similar erections, it must have been a very imposing stronghold. As in the case of the moated mount fort at Dinan pictured on the Bayeux Tapestry,² the whole of the palisading here was doubtless of wood, for there is no sign of any masonry upon either the mount or the ramparts.

Many writers have made mention of the curious ancient 'covered way' near the village called Tutbury Lane; whether it had any connection with the possibly early earthworks to the south of the main fort, is unknown. It runs up the hill from the old ford at Bretford to the left of, and more or less parallel to, the Fosse Way. It is little more than a deep ditch, only wide enough for the passage of a large wheelbarrow.

Such important remains as these at Brinklow have naturally long attracted the attention of local antiquaries, and many have been the suggestions made as to their origin. They have been ascribed frequently both to the ancient Britons and to the Romans, but there is no doubt that they are really of very much later date than either of these peoples, and that they are in fact an excellent example of the Teutonic mount and court fortress. This stronghold is very similar to the mount forts at Tamworth and at Warwick, which are ascribed locally to King Alfred's daughter Ethelfleda; the present earthworks are almost certainly however later than Saxon days. The apparent silence of history about the erection of so large and imposing a stronghold is curious. After an occupation of possibly a couple of hundred years, the great stockaded fort was presumably abandoned, for no subsequent castle of masonry was ever erected upon its mount and ramparts. Local tradition in Dugdale's time preserved the memory of a 'keep' having once existed upon the mount, and the idea is recorded as prevalent in the village as late as 1845.³

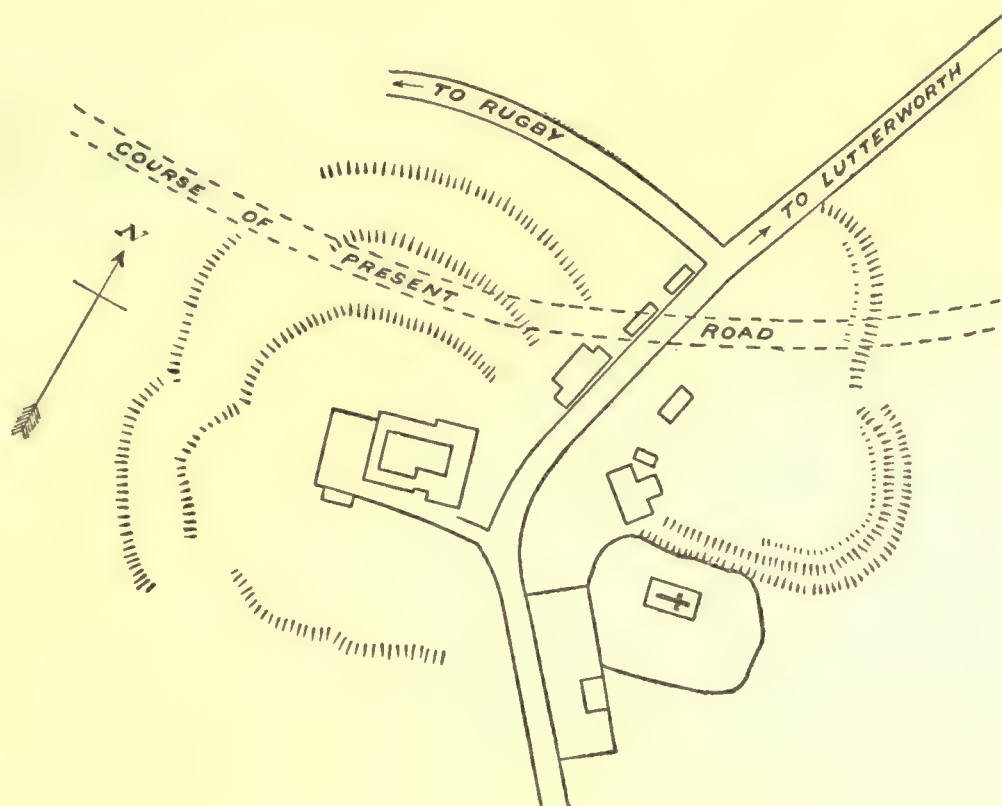
¹ Salmon, *New Survey* (1731), p. 493.

² Above, p. 351.

³ Dugdale's *Warw.* (1765) pp. 2, 148; Camden's *Brit.* (Gough ed.), ii. 331, 347; Arch. Inst. *Journ.*, Clark, xxxv. 112-17; Burgess in B'ham and Mid. Inst. Arch. *Trans.* (1872), p. 85, and in Brit. Arch. Assoc. *Journ.* (1873), p. 40.

ANCIENT DEFENSIVE EARTHWORKS

BROWNSOVER (near Rugby).—Some worn remains of what was early in the last century an important ancient camp, may be traced around the church and village here. Many of its entrenchments were destroyed when an alteration was made in the course of the old turnpike road between Rugby and Lutterworth; this formerly ran more to the north, close to Brownsover Hall, and almost outside of the area of the earth-works. The site chosen by the makers of this fortress is a commanding one; it is at the south end of a low ridge, and overlooks the valleys of



BROWNSOVER
A.D. 1827, after Bloxam

SCALE OF FEET
0 100 200 300

the rivers Avon and Swift, which join one another just below; a small ravine separates it from the higher ground to the north. In former days the low-lands on either side of the two streams, which are now often flooded, were probably an impassable morass; this would form a good natural defence upon the west and south.

Fortunately we have a record of the camp as it appeared early in the last century, before the diversion of the road. For the late Mr. M. H. Bloxam, F.S.A., made a sketch of it in the year 1827, which, together with his description of the remains, is preserved in Hamper's

A HISTORY OF WARWICKSHIRE

copy of Dugdale with MS. additions in the British Museum. From this the entrenchments seem to have partly enclosed two areas, contiguous to one another, but not then visibly connected ; one lay to the north of the churchyard, and the other to the west ; possibly ramparts which once joined the two together were destroyed by the erection of the buildings and the making of the road on the west side of the church. Mr. Bloxam describes the defences which he mapped out, and which are reproduced on the plan on page 363, as follows : 'The north side of Chapel yard is bounded by a fosse, about twenty feet in breadth, which runs eastward into the adjoining field, and there curves off towards the north ; after running in that direction for some distance, it again turns to the west, and all traces of it are lost when it reaches the road.' He adds that 'the vallum and fosse on the east side are, though easily traceable, very slight, the vallum being on a level with the interior area.' From the western side of the chapel yard he says that 'the ground gradually slopes to the road,' and that this slope appears to be continued all along the side of the latter, though traces of probable former earthworks are obliterated by buildings.

Turning to the enclosed area on the west side of the road, Mr. Bloxam goes on to say that on the north 'the remains appear to consist of a triple row of valla rising like terraces one above another,' and that there is no fosse now discernible. Continuing round to the west 'appear indications of a double vallum,' and on the south of 'a single vallum, which is carried as far as the road, when it is again lost.'

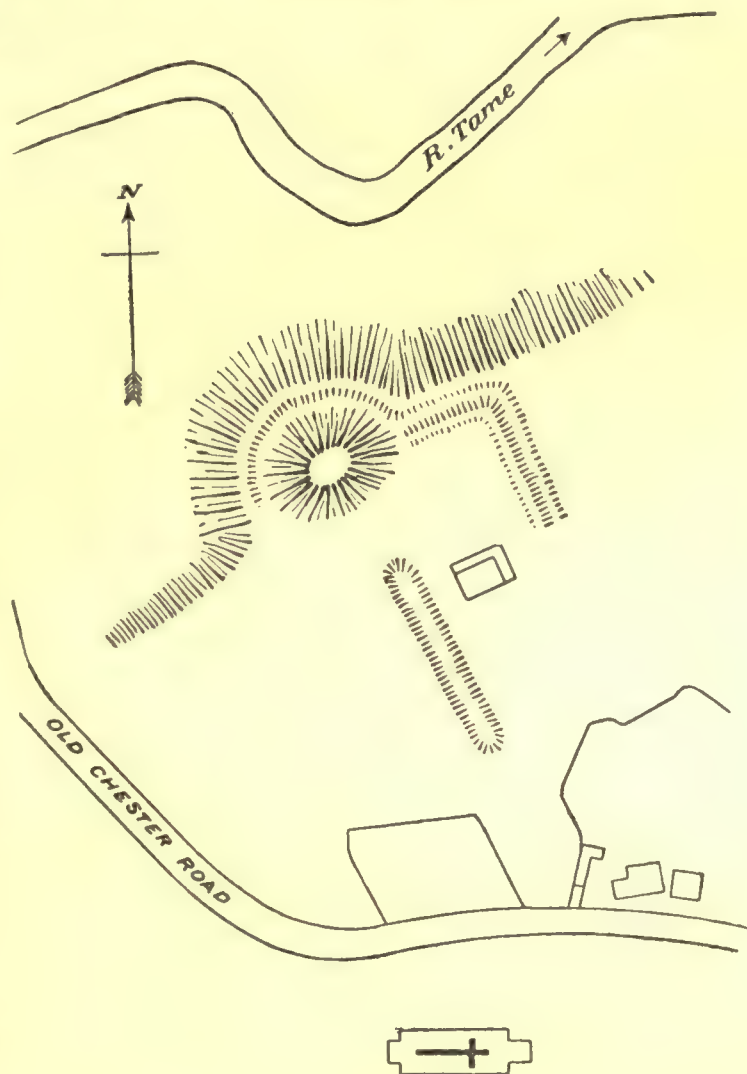
All the above described remains on the north side were destroyed when the new road was cut through them ; the worn defences on the west, south and east sides only are now discernible. Mr. Bloxam always considered the camp to belong to a prehistoric age, which, as far as can be judged from its general plan, would seem to be correct. The discovery of some ancient interments with bodies in a crouching position, and also of a Roman cinerary urn, are recorded from the adjacent chapel graveyard.¹

CASTLE BROMWICH (5 miles north-east of Birmingham).—In a large field called the 'Castle Hills,' on the north side of the road opposite to the village church, some imposing earthworks of the moated mount and court type at once attract the eye. They are situated at a height of 350 feet above sea level, upon the brow of a hill overlooking the river Tame, which runs just below them at the foot of a steep slope. Their *raison d'être*, in the first instance, was evidently to guard and dominate the important ford across the river close by, where the very ancient highway now called the Old Chester Road is carried northwards by a bridge. The great mount is a prominent object, visible from many miles away ; the outlook from it is most extensive, especially over the low level country to the north.

¹ Bloxam, MS. in Dugdale's *Warw.* (Hamper's copy), p. 10 ; Bloxam's *Rugby School and Neighbourhood*, pp. 194-5 ; Bloxam in B'ham. Phil. Inst. *Trans.* vol. iv. No. xvi. etc. ; Burgess in B'ham. and Mid. Arch. *Trans.* (1872), p. 84, and in Brit. Arch. Assoc. *Journ.* (1873), p. 40.

ANCIENT DEFENSIVE EARTHWORKS

The remains consist of a great conical artificial mount, very similar to that at Brinklow, only smaller ; it is slightly oval in shape, and measures about 70 by 100 feet in diameter at its base ; it is 25 feet high, and has a flat top about 25 feet across. Round the edge of the summit is a distinct raised rim of earth, evidently the remains of the 'fighting platform' erected within the wooden palisades which once defended the 'keep,' as pictured in the Dinan fort on the Bayeux Tapestry.¹ Encircling the mount is a moat, which is now however almost filled up on the south side ; it was no doubt formerly supplied with water from the spring still to be seen within it. Beyond the moat on the north the ground falls away very sharply to the river below. Adjoining this moated mount on the south-east lies a courtyard, which is defended by strong entrenchments. This, instead of being of the usual curved horseshoe shape, as at Brinklow and at Seckington, is rectangular, in which respect it resembles the courtyards at Warwick and at Tamworth. Its earthworks are still well preserved upon the north and part of the east sides, and consist of a deep moat with a rampart inside, upon which several ancient thorns and yew trees grow ; both rampart and moat have



CASTLE BROMWICH

SCALE OF FEET
0 100 200 300

¹ See above, p. 352.

A HISTORY OF WARWICKSHIRE

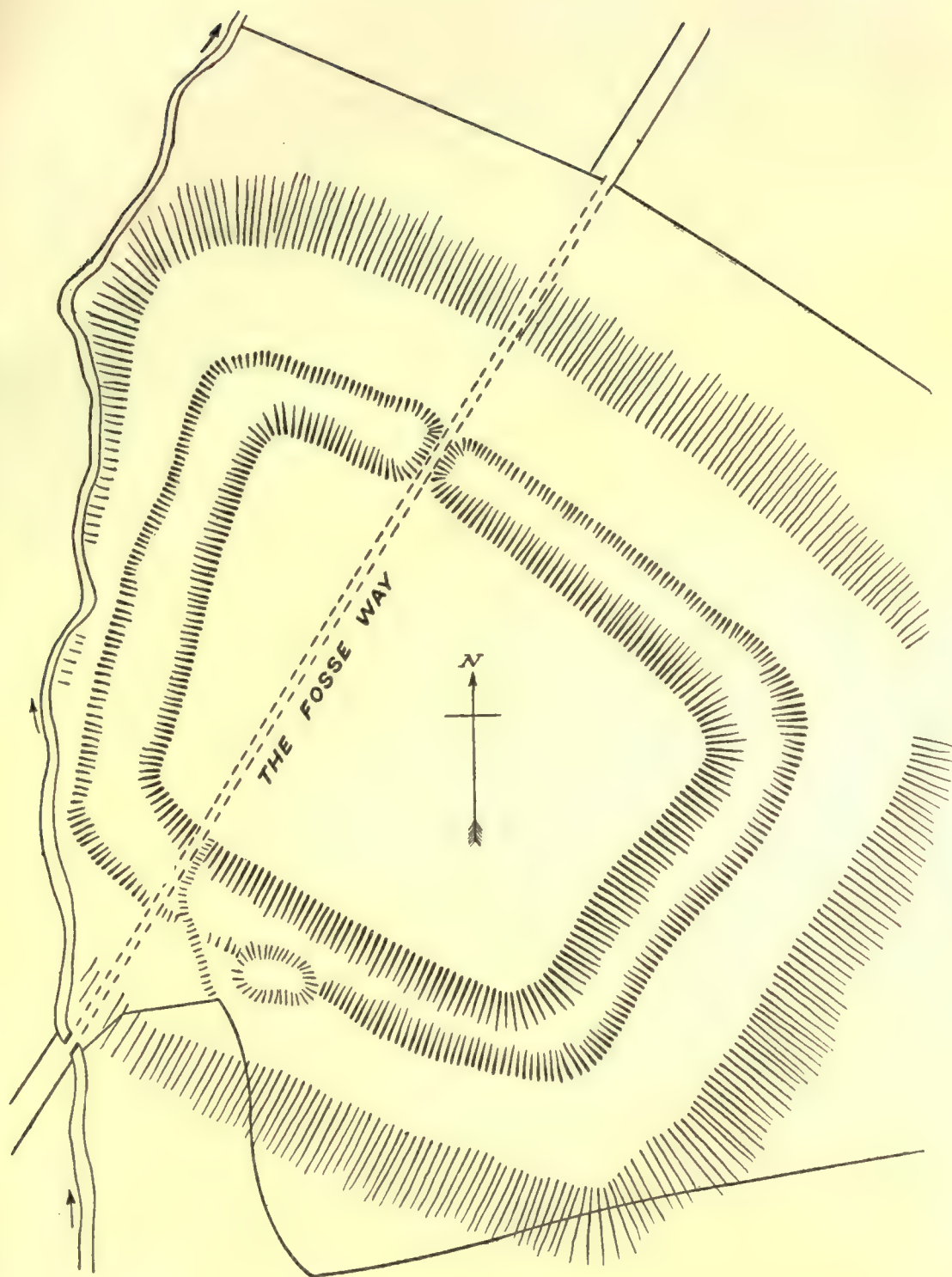
disappeared upon the south side of the enclosure, but on the west there is a long and deep ditch running in a straight line in a south-westerly direction from near the mount. Further west there are remains of other moats and terraces, and traces of fortifications are to be seen almost as far as the water-mill beside the road below; there are also artificial terraces in the field to the east of the rectangular court. Altogether, the works accompanying the mount appear to have been very extensive; but they have become so worn, and also been apparently so much altered by man in former years, that their original plan is not now easily discernible. Dugdale, two hundred and fifty years ago, speaks of 'vestigia' of the castle only being visible in his day. There are no traces of ancient masonry either upon the mount or the ramparts; their palisades were evidently therefore of wood, which has long since disappeared. A few old bricks upon the top of the mount are the relics of a monument erected there by one of the Bridgemans in the last century.

This mount has often been described as a sepulchral tumulus, and the earthworks adjoining it as Roman; of course either might have been made use of by later designers of the existing mount and court fort, but excavation would be necessary to substantiate the assertion. As at Brinklow and at Seckington, no mediæval structure of masonry was ever erected on the site of the stockaded fortress of the Norman Lords 'del Chastel de Bromwyz.'¹

CHESTERTON (4 miles south-east of Leamington).—One and a third miles north-west of the church in this parish, and on the line of the ancient Fosse Way, which cuts through it, is a worn entrenchment known locally as the Roman Camp.

These earthworks are in a little valley formed by the course of the Chesterton brook, on the right bank of which they are situated; the spot is sheltered by low encircling hills. In shape the camp is roughly oblong, with an interior area of about 8 acres; it lies almost north-west by south-east; the corners at the east and south are slightly rounded rectangles, while those at the north and west are acute and obtuse angles respectively, owing to the north-east rampart being longer than that to the south-west. This irregularity in construction is presumably caused by the formation of the ground; the makers of the camp appear to have chosen the slight elevation in the course of the Fosse Way across the valley as an advantageous position for their purpose, but the brook running close by has obliged them to cut away a portion of the oblong upon the west side. The entrenchments now consist only of wide and imposing looking ditches; and even these are more or less obliterated in parts, notably at the west corner and along the south-east side; in some places the ditches measure as much as 140 feet across the top, and are only from 9 to 12 feet deep, but there is no doubt that their appearance has been materially altered by the levelling action of the plough, which has steadily widened them at the top and at the same time filled them

¹ Dugdale's *Warw.* p. 620; Chattock's *Antiquities* (1884), pp. 205, 287-9; Burgess in *B'ham. and Mid. Inst. Arch. Trans.* (1872), p. 88, and in *Brit. Arch. Assoc. Journ.* (1873), pp. 39-42.



CHESTERTON
A.D. 1822, after Pretty

SCALE OF FEET
0 100 200 300

A HISTORY OF WARWICKSHIRE

up at the bottom. A very careful survey made in 1822 by Mr. Edward Pretty, then drawing-master at Rugby School, and here reproduced,¹ shows the ditches at that time to have been upon an average less than 100 feet across, and they would doubtless be correspondingly deeper; even then there were no signs of the inner rampart remaining; this in all likelihood has been thrown down at some time or other into the ditch, for the easier cultivation of the field.

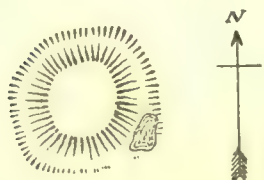
The ancient Fosse Way, in its course across the midlands, passes through the western half of this camp; it enters near the corner, and quits the interior through the north-east side. Within and just outside the area of the camp, it is in its present shape merely a trackway $7\frac{1}{2}$ feet wide, whereas, a little further north and south, it again becomes a 10 foot road, raised 3 feet above the level of the surrounding ground, and with wide ditches on either side, 6 feet in depth from the surface of the highway.

The position of Chesterton camp, placed as it is upon the Fosse Way, much resembles that of Mancetter, hereafter described, upon the Watling Street; with the exception, that in the first case the oblong lies across, and in the second, parallel with, the road.

Dugdale records that 'within the Compasse' of the camp 'divers old Coynes' were 'digg'd up'; and since his time many pieces of Roman money, as well as fragments of Roman pottery, have been found in the fields near.² Whether this earthwork is actually Roman or not, only excavation upon the site can finally determine; the arguments, for and against, at present, are fully set forth in the article on 'Romano-British Warwickshire.'

CHESWICK GREEN.—See Tanworth.

CHURCHOVER (4 miles north of Rugby).—An interesting and well preserved little moated mount castle of class D is to be seen in this parish, about half a mile south of Coton House. Proceeding from Brownsover along the Lutterworth road, it lies in the middle of the second field to the east of the highway, just after passing the third milestone from Rugby. The remains consist of a low circular artificial hill, measuring about 150 feet in diameter at its base, with a flat top about 70 feet across; it is surrounded by a ditch, in which water still lies at the south-east side.



CHURCHOVER

SCALE OF FEET
0 100 200 300

The Ordnance Survey map calls this mount a tumulus; there is an undoubted sepulchral mound here, once opened by Mr. Bloxam, which lies in the spinney beside the high-road a few hundred yards to the north-west; but it is much smaller than the mount above described, and has no encircling ditch.³

¹ Preserved in Dugdale's *Warw.* (Hamper's copy), p. 340.

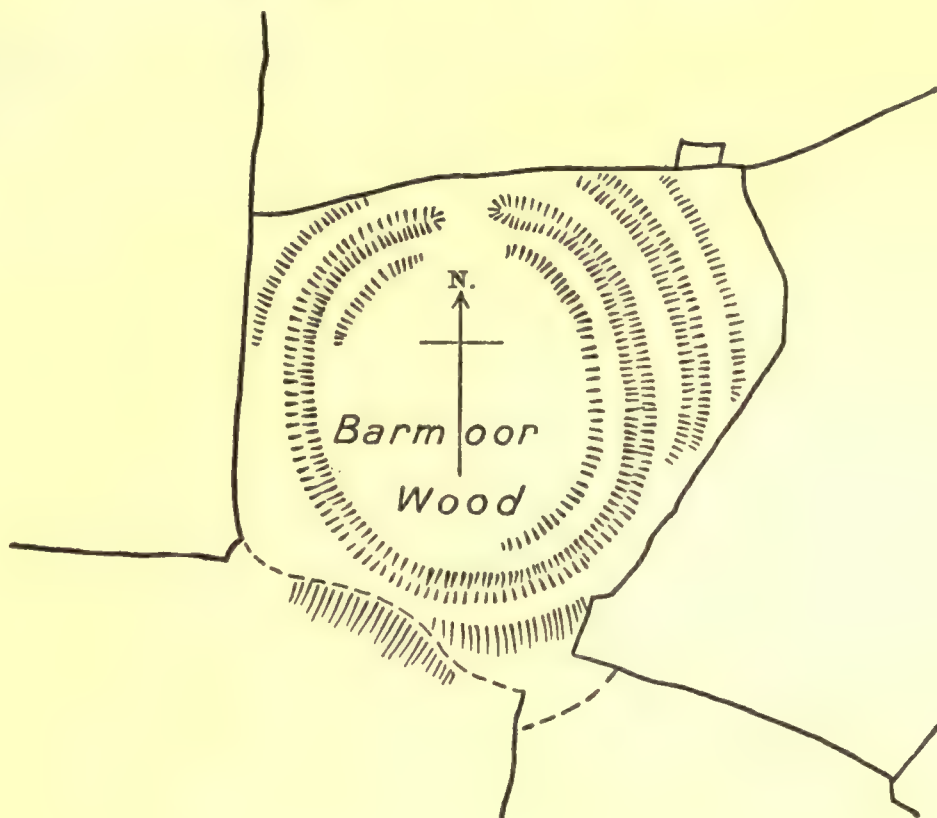
² Dugdale's *Warw.* p. 340; Turner's *Shaks. Land*, pp. 301-3.

³ O.S. Map 25 in., 1883.

ANCIENT DEFENSIVE EARTHWORKS

CLAPPER'S HILL.—See Coughton.

CLAVERDON (5 miles west of Warwick).—Here are well preserved remains of a small oval camp, hidden away in the brambles of Barmoor Wood, on the western confines of the parish, 600 yards north-west of Kington Grange. It is situated upon the southern edge of a slight elevation, with extensive views all round. The little river Alne runs not far away from its north and west sides, and would no doubt afford good natural protection in former days, when its waters would spread out into marsh and swamp along its course.



CLAVERDON
A.D. 1875, after Burgess
SCALE OF FEET
0 100 200 300

Mr. Burgess was the first to discover and describe these earthworks. From his account, the entrenchment appears to be almost oval in form, enclosing a raised plateau of about $3\frac{1}{2}$ acres in extent; this is defended by a very perfect vallum and fosse, with portions of a second vallum beyond; 'the inner vallum is about 20 feet broad at its base, and there appears to have been a smaller one, or perhaps the ledge for a stockade, nearer the ditch'; 'the outer vallum is considerably modified by the fence which surrounds it.' Mr. Burgess describes the fosse as 20 feet

A HISTORY OF WARWICKSHIRE

wide and some 12 feet deep, with a causeway 30 feet broad across it, which connects the enclosure with a flat elevated area, covering about 24 acres, lying beyond it; this area has, he goes on to say, sloping sides showing signs of cut terraces, which are probably the weather-worn remains of former ramparts. He mentions that he was informed by a native that there were some cut stones remaining in a corner of the interior area, thirty years previous to his visit, which appeared to have formed part of an underground chamber. This camp is somewhat similar in appearance to the one at Beausale, $4\frac{1}{2}$ miles away.¹

On Yarningale Common, an elevated promontory about a mile north-east of Barmoor Wood, Mr. Burgess discovered a low double mound surrounded by a fosse, situated on the north-west shoulder of the hill; the base of the larger mound he described as about 70 feet in diameter, and the 'inner central one not more than 9 feet.' The fosse he measured as 11 feet wide.²

CORLEY (6 miles south-west of Nuneaton.)—There are remains of a considerable fortress in this parish, on the hill called, in consequence, the Burrow Hill. They are situated upon a sloping plateau on the top of the hill, facing north-east, and at an altitude of some 500 feet above the level of the sea, and from which there is a magnificent prospect on every side.

The shape of the camp is an irregular square, containing an area of about 10 acres; it is defended partly by natural rocky precipices, and partly by artificial earthworks. The latter are now much weather-worn, and also altered by cultivation; they consist mainly of a rampart, varying from 10 to barely 3 feet in height, and about 30 feet wide at its base; no accompanying fosse is now visible, except on the side near the valley; there is also a long ditch on the south-west separate from the main works. In the interior is a pit, fed by a spring, which would afford a good water supply. There appears to have been but one ancient entrance, that on the north-west side by the rocks; the opening at the north-east angle has evidently been cut in later days to form a road from the field within the area to the farmhouse below.

Mr. Ribton-Turner, who was the first to report upon these remains in detail, describes further traces of ancient works, as follows: 'Two escarpments with terraces and trenches,' the former 'from 40 to 60 feet in height, on the curved front of the steep declivity overlooking the valley, and extending some ten chains or more on each side of the main works'; he also says that 'there are indications of other smaller fortifications in the fields on this side of the hill, running nearly parallel with the rock, but time and the plough have left few traces of the original features.'³

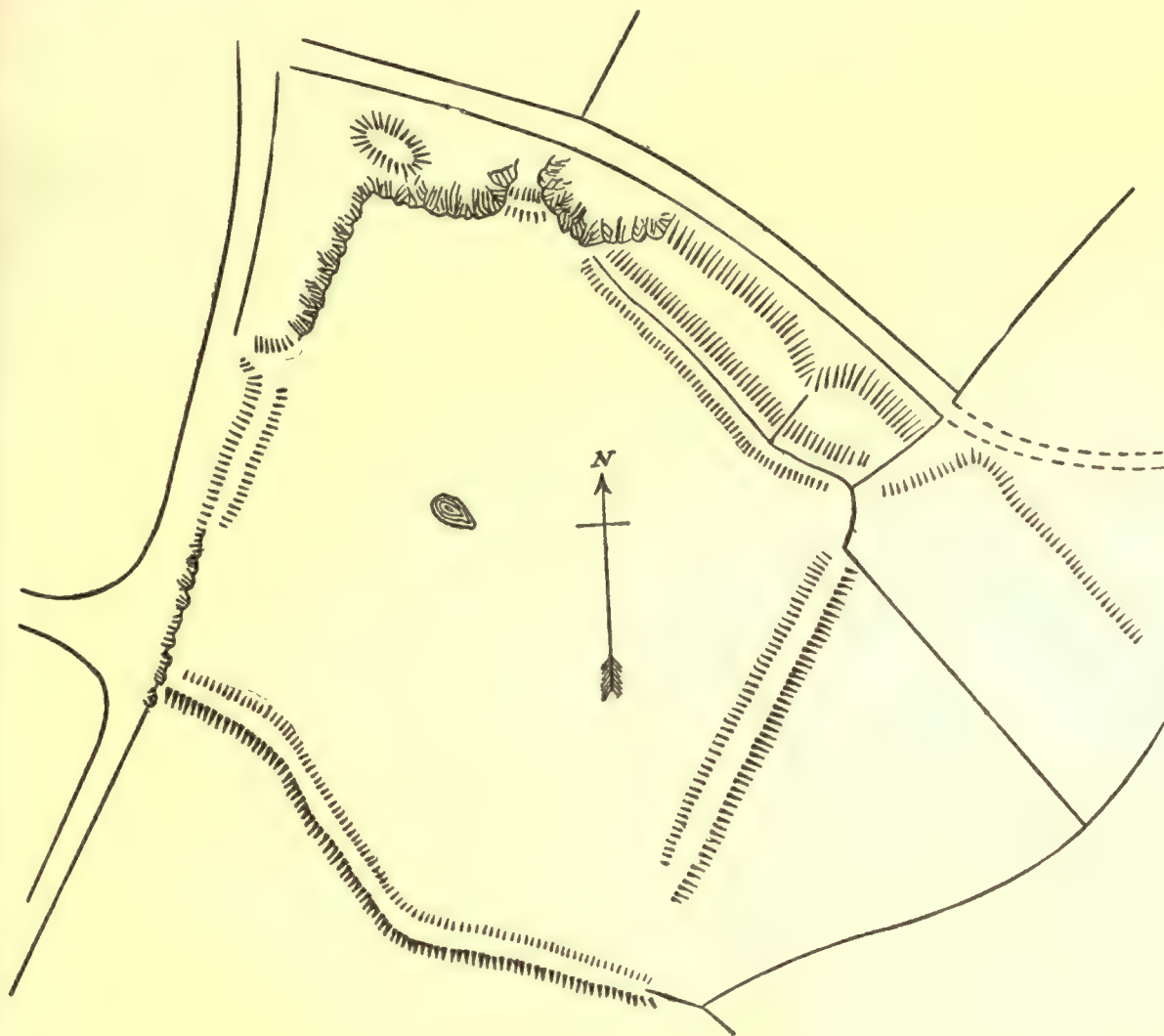
¹ Burgess in B'ham. and Mid. Inst. Arch. *Trans.* (1872), p. 86, in Brit. Arch. Assoc. *Journ.* (1873), p. 41, and in *Arch. Journ.* xxxiii. (1876), pp. 369-70; Timmins's *Warw.* pp. 65-6; Turner's *Shaks. Land*, p. 195.

² Burgess in *Arch. Journ.* vol. xxxiii. (1876), p. 370, and in B'ham. and Mid. Inst. Arch. *Trans.* (1872), p. 86.

³ Turner's *Shaks. Land*, p. 252.

ANCIENT DEFENSIVE EARTHWORKS

As far as one dare judge from outward appearance alone, these earthworks would seem to be of prehistoric origin ; Mr. Turner expressed the opinion that they were afterwards utilized and adapted by the Romans. It would be very interesting if some excavation could be undertaken upon the site, as up to the present there are no records of any 'finds' to throw light upon the subject.



CORLEY

Burrow Hill Camp

SCALE OF FEET
0 100 200 300

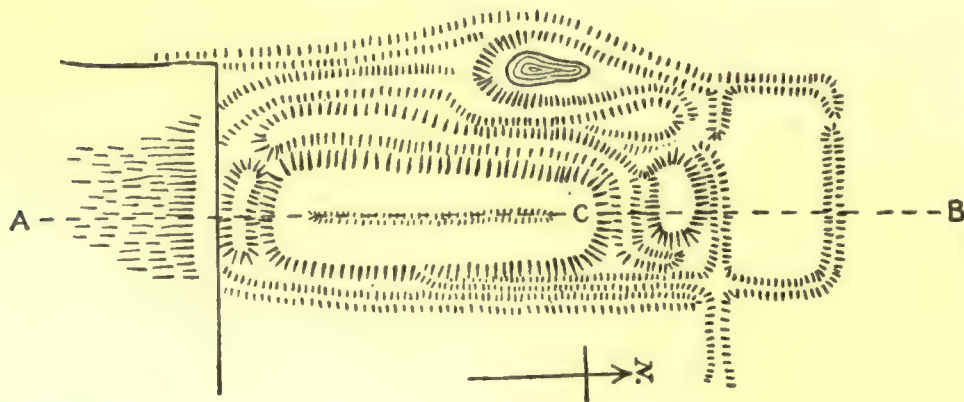
COUGHTON (2 miles north of Alcester.)—Some worn remains of earthworks, which have long been known as the 'Danes' Banks,' lie about a mile west of the church in this parish, on a rounded knoll called Clappers' Hill. They occupy a dominating position upon a plateau on the summit of this hill, at an altitude of 300 feet above sea level,

A HISTORY OF WARWICKSHIRE

from which there is a fine view on nearly every side. The Icknield Street passes northwards from the Roman station at Alcester about a mile away on the east, and the ancient Ridgeway at about the same distance on the west ; to the south runs the valley of the Alne, with the town of Alcester beside the river.

The remains are now slight and disconnected. But in 1875 they were much more striking, and Mr. Burgess made the plan of them here

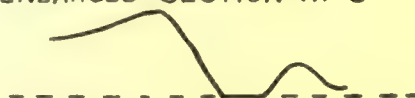
Danes' Banks.



SECTION .



ENLARGED SECTION AT C



COUCHTON

A.D. 1875, after Burgess

SCALE OF FEET
0 100 200 300

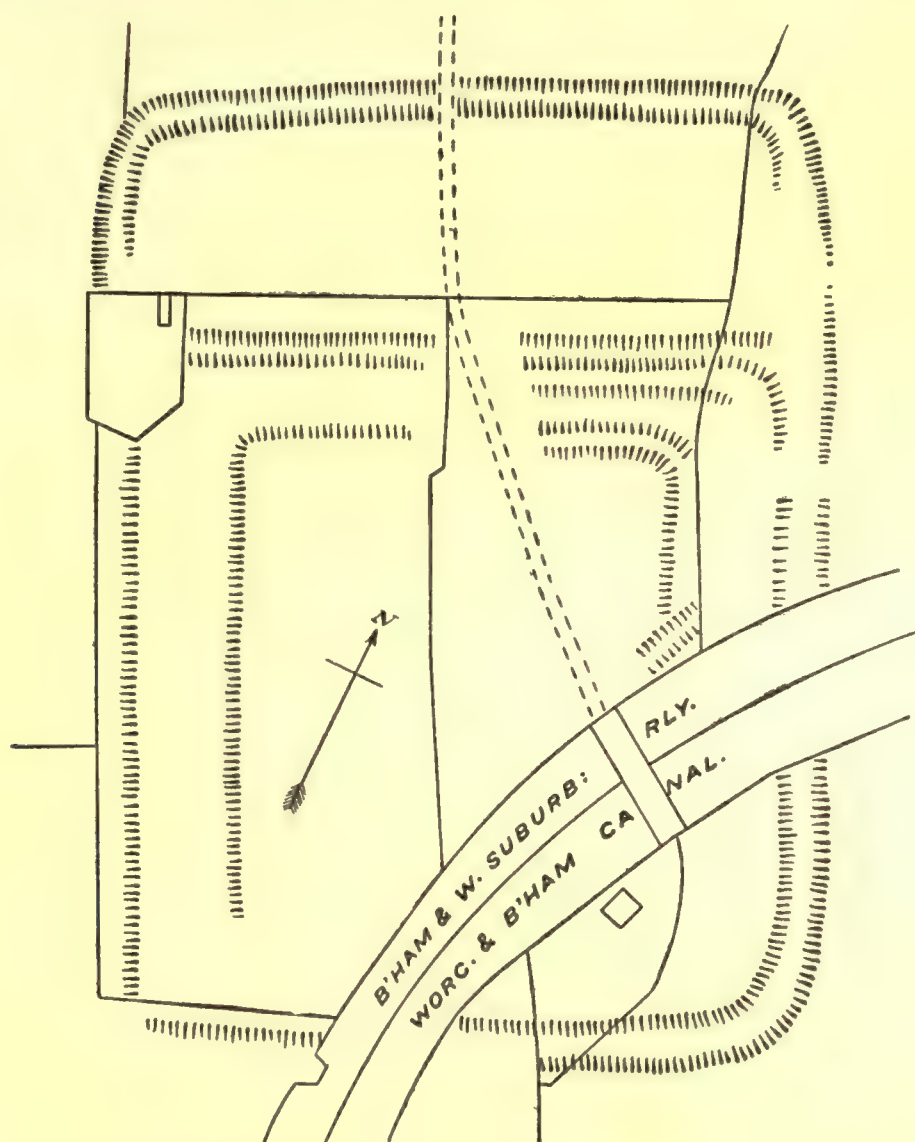
reproduced for a paper which he contributed to the *Archæological Journal*; he then described these singular earthworks as consisting of a 'long rectangular mound like a gigantic barrow, encompassed by a double rampart and terminating in the north in two rectangular enclosures.' The ditches between the ramparts were 12 to 15 feet deep.¹ In 1784 a writer in *The*

¹ Burgess in B'ham. and Mid. Inst. Arch. Trans. (1872), p. 87, in Brit. Arch. Assoc. Journ. (1873), p. 39, and in Arch. Journ. vol. xxxiii. (1876), p. 373.

ANCIENT DEFENSIVE EARTHWORKS

Gentleman's Magazine described the 'old camp' upon 'Danes' Bank' as defended by 'deep trenches.'¹

Local tradition says that Danish soldiers once occupied these earthworks, whence they attacked and destroyed Coughton, and the now long forgotten hamlet of Wyke, close by.



EDGBASTON

SCALE OF FEET
0 100 200 300

An interesting moated area, which is also connected by local tradition with the camp, is to be seen in a field, to the south of the road

¹ *Gent.'s Mag.* (1784), pt. 1, p. 404.

A HISTORY OF WARWICKSHIRE

called Wick Lane, half way between Coughton Lodge Farm and the railway station. It is nearly a square, containing about an acre, and with a deep ditch the greater part of the way round and the remains of a vallum outside the ditch ; the moat completely enclosed the area until recent years, when a road leading from the highway to the farm was made across it.¹

EDGBASTON (near Birmingham.)—There are remains of a large rectangular entrenchment, in Metchley Park, at the south-west corner of this parish, and near Selly Oak ; it lies 400 yards west of Metchley Lane ; the Birmingham and Worcester Canal and the Birmingham and West Suburban Railway cross its south-east corner.

The earthworks now extant are oblong in form, lying north-west by south-east ; they are situated just north of the Bourne brook, on fairly level ground, at an altitude of about 500 feet above the sea. They are much worn and mutilated. Even a century ago, Hutton, in giving an account of them, wrote that though no part was actually obliterated, the fortification was nearly levelled by cultivation. He described the works as then covering about 30 acres, being nearly in the form of a square, each side of which was 400 yards long ; in the centre was a quadrangular platform of about 6 acres, surrounded by three ditches ‘at irregular distances from one another’ ; each of these ditches measured ‘about 8 yards over.’²

Hutton records that ‘pieces of armour were frequently ploughed up’ here in his day, ‘particularly those of the sword and the battle axe.’ A recent cutting was made through the earthworks for the pipes of the Welsh Birmingham Water Supply, but Mr. Pearson informs me that, although careful watch was kept for antiquities, nothing of any interest was found. It may perhaps be mentioned that the camp would not be far away from the now lost track of the ancient Icknield Street through Birmingham.

FENNY COMPTON (14 miles south-east of Warwick).—One of the spurs of the Burton Dassett Hills called Gredenton Hill, half a mile south-west of this village, has its steep sides scarped into a series of artificial terraces. These terraces have every appearance of being the remains of ancient entrenchments which once encircled the summit of the hill, and which have been reduced by the weather and the action of the plough to their present condition. It has sometimes been argued that they are merely ‘linchets’ resulting from repeated ploughing of the hillside ; but a similar levelling of ramparts into ditches, producing the effect of terraces, is not infrequent in connection with ancient camps ; it may be seen, for example, at Brownsover in this county. The top of Gredenton Hill, which has an altitude of about 650 feet above sea level, is a strong and commanding position, such as would early be seized for fortification by settlers in the district ; two little streams, now much

¹ Burgess in *Arch. Journ.* vol. xxxiii. (1876), p. 373.

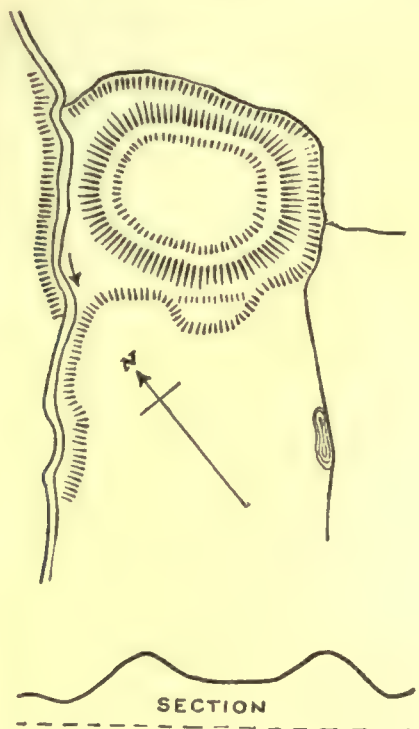
² Hutton's *B'ham.* pp. 461-3.

ANCIENT DEFENSIVE EARTHWORKS

reduced in volume, which run at the bottom of valleys cut on either side of it, probably once added to the natural defences of the site.¹

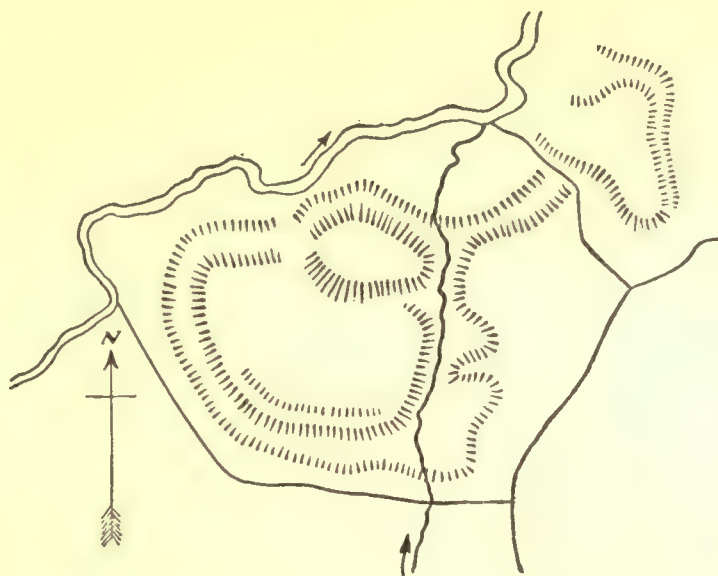
FILLONGLEY (7 miles north-west of Coventry.)—In this elevated village are two earthworks, one bearing the name of the 'Castle Hills' and the other called 'Castle Yard.'

The first named, 'Castle Hills,' is a small and well preserved entrenchment on a farm known as the 'Bury Fields.' It is situated about three-quarters of a mile north-east of the church, on low-lying ground by the side of a small stream.



FILLONGLEY.
Castle Hills.

SCALE OF FEET
0 100 200 300



FILLONGLEY
Castle Yard

SCALE OF FEET
0 100 200 300

The little fortress is nearly oval in form and covers an area of about an acre. Its defences consist of a strong rampart running round a raised internal plateau with a deep ditch beyond. The ditch or moat was probably once filled with water from the stream which still runs through it on the south-west side. There are remnants of further artificial banks in the field to the south, but they are now worn and indistinct in plan. The site was called 'Old Fillongley' in Henry the Third's time.²

¹ Burgess in B'ham. and Mid. Inst. Arch. *Trans.* (1872), p. 83; Bloxam in ditto (1875), p. 31; Burgess in Brit. Arch. Assoc. *Journ.* (1873), p. 38; Turner's *Shaks. Land*, p. 293.

² Dugdale's *Warw.* p. 725, quoting *Testa de Nevill*; Bloxam in B'ham. Phil. Inst. *Trans.* vol. iv. no. xvi. p. 186; Burgess' *Warw.* p. 5; Burgess in B'ham. and Mid. Inst. Arch. *Trans.* (1872), pp. 85, 88.

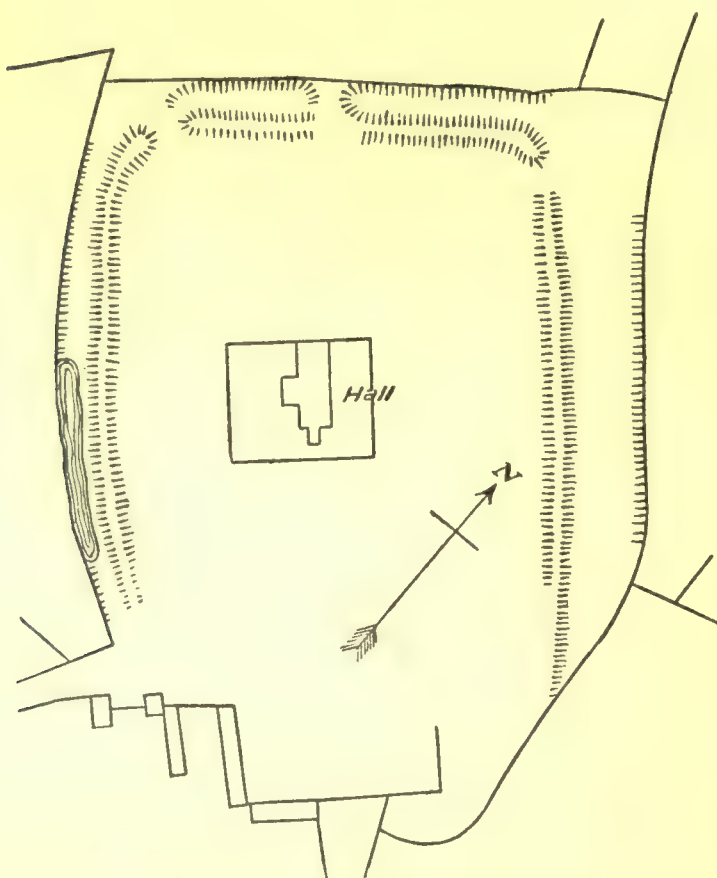
A HISTORY OF WARWICKSHIRE

The later earthworks, on the site known as the 'Castle Yard,' are a quarter of a mile south of the church. They are placed in a strong position, upon a triangle of land formed by the junction of two brooks; they are now much worn. At the apex of this triangle rises a low mount or keep; south of this is a courtyard, which occupies an area of rather over an acre, lying between the brooks. A moat surrounds the mount and the court, through the eastern side of which one of the little

streams runs, while water also stands within it on the west. There are remnants of a rampart running round inside the moat upon the south side of the court. Further banks and ditches are to be seen beyond the stream to the north-east, but their plan is not now easily discernible. On the summit of the mount there are remains of masonry, but there are no visible traces of stonework upon the bank round the court.

This little mount and court castle was occupied by the great Hastings family early in the reign of Henry I., and it afterwards became their chief residence in Warwickshire.¹

GREDENTON HILL. — See Fenny Compton.



HARTSHILL.

Oldbury Camp

SCALE OF FEET
0 100 200 300

HARBOROUGH BANKS.—See Lapworth.

HARTSHILL (3 miles north-west of Nuneaton)—The ancient camp known as Oldbury crowns a rocky elevation, 550 feet above sea level, which rises to the west of this village; in its centre stands the Georgian mansion called Oldbury Hall. The stronghold has a most commanding position, overlooking the vale of Leicestershire and domin-

¹ Dugdale's *Warw.* p. 725; Clark's *Mil. Archit.* vol. i. p. 81, vol. ii. pp. 47-8; Burgess' *Warw.* p. 5; Timmins's *Warw.* pp. 84-5.

ANCIENT DEFENSIVE EARTHWORKS

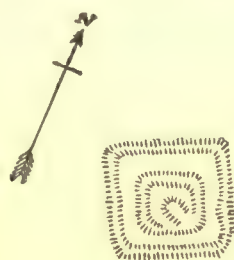
ating the ancient Watling Street, which passes below it a couple of miles to the north. These remains have long attracted the attention of antiquaries, William Camden having written of the 'quadrangular fort' as early as the days of Queen Elizabeth.¹

The camp is oblong in form, lying north-west by south-east, and encloses an area of about 7 acres; its two longest sides are parallel to one another, and its extant corners are slightly rounded rectangles. The ramparts are well preserved on three sides, but on the fourth, that to the south-east, they are much worn. They consist of a single bank, about 20 feet broad at the base and now only about 6 feet high; outside of this is a ditch, well marked upon the north-west side and fairly so along the south-west, where it contains water, but only just traceable elsewhere. Two hundred and fifty years ago, when Dugdale knew them, the defences were evidently much more imposing, as he writes of 'Rampires whose Height and Largenesse do still shew the Strength' of the fort. Bartlett also, as late as 1777, speaks of 'high ramparts still in full perfection.' There are now three openings through the ramparts into the interior area, one at the north corner, one in the middle of the north-west side and a third near the west corner; but it is difficult to determine whether any of these represent ancient entrances. Dugdale records certain interesting discoveries made in his day, apparently within the area of the camp. He says that 'on the North Part of this Fort have been found by plowing divers Flint Stones, about four Inches and a half in Length, curiously wrought by Grinding, or some such Way, into the Form here exprest.' He then gives a drawing of what is apparently a Neolithic celt, and which he says was deposited in the museum of Elias Ashmole at Oxford.

This camp has often been described as Roman, and Salmon, in his *Survey of Roman Antiquities*, even placed the *Manduessedum* of Antonine's Itinerary here. But there is nothing to substantiate these statements; on the contrary *Manduessedum* was upon the Watling Street at Mancetter just below, and general appearances, as well as the above recorded finds, certainly point to a prehistoric origin for these earthworks.²

HOB'S MOAT.—See Solihull.

ILMINGTON (7 miles south of Stratford-on-Avon).—High up the hill above this village, and about three-quarters of a mile south-west of the parish church is a small double moated enclosure locally called 'The Camp.' It is in a large open field known as Nebsworth, which crowns the top



ILMINGTON

SCALE OF FEET
0 100 200 300

¹ Camden's *Brit.* (Gibson ed. 1695), p. 510.

² Dugdale's *Warw.* p. 765; Nichol's *Leicestershire*, vol. iv. p. 1029; Bloxam in *B'ham. and Mid. Inst. Arch. Trans.* (1875), pp. 32, 33; Burgess in ditto (1872), p. 88, and in *Brit. Arch. Assoc. Journ.* (1873), p. 43; Langford's *Staffs. and Warw.* vol. ii. pp. 128, 392.

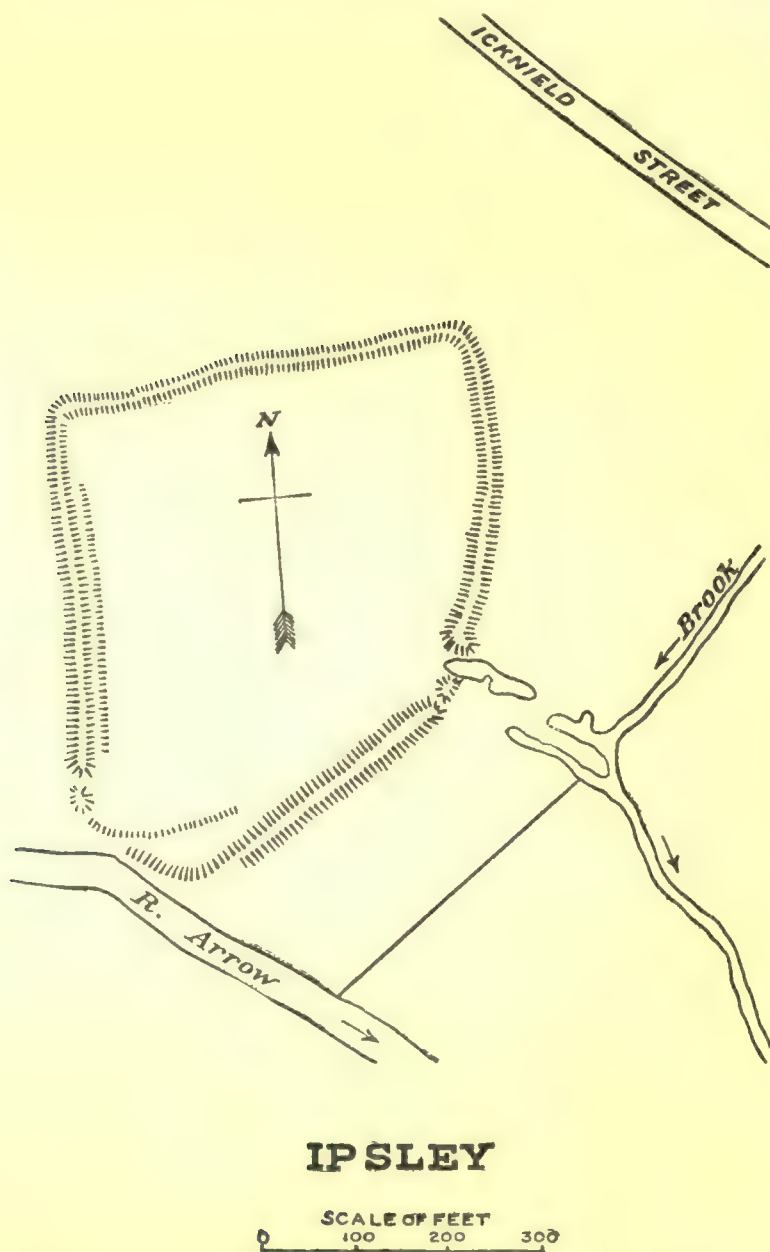
A HISTORY OF WARWICKSHIRE

of the eastern extension of the steep Ilmington Hills, and it lies close to the ordnance survey cairn which marks an altitude of 761 feet. The works are square with slightly rounded corners; they cover less than three-quarters of an acre. The fosse which encloses the area is very perfect, and within its interior is a second ditch.

These small remains have frequently been described as Roman, and a few Roman coins and potsherds which have been turned up on the hill have supported the theory.¹ This is however unlikely; the place would seem rather to be the site of an early moated home-stead.

IPSLEY (7 miles north of Alcester).—On the left bank of the little river Arrow, and half a mile south of the village church, are important remains of an entrenched camp.

Like that at Chesterton, this camp is placed in a sheltered valley instead of on a hill. It is approximately a square in shape, but with



its south-east angle cut away into a sloping curve; two of its corners, those to the north-east and north-west, are rectangular; it covers an area of about 4 acres. The defences consist of a rampart, which extends for the greater part of the way round it, and there are slight

p. 5; Timmins Burgess in *Brit. Arch. Assoc. Journ.* (1873), p. 38; Timmins's *Warw.* p. 68.

ANCIENT DEFENSIVE EARTHWORKS

remains of a ditch, the latter altered and worn. A little brook, which falls into the river Arrow just below, runs close to the camp upon its eastern side, while the river itself almost washes the base of the western ramparts; in former days therefore the stronghold would be well protected on three of its sides by water and by marsh and swamp. The ancient Icknield Street passes only a few yards away from the entrenchment on the north-east.

Various writers have described these earthworks as Roman,¹ without producing adequate evidence in support of the statement; as far as mere appearances go, the remains resemble the angular variety of camp described under Class B^{II}.

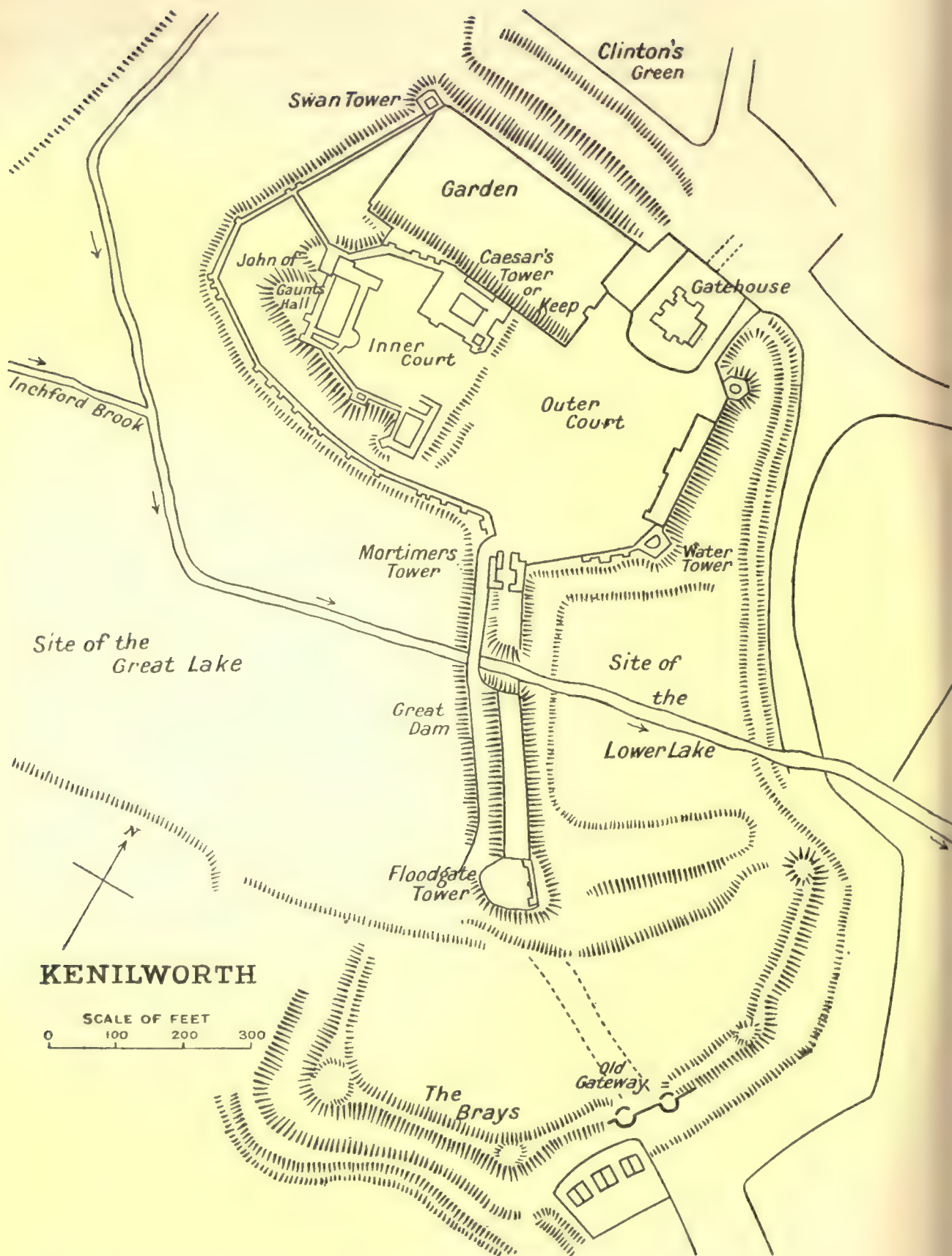
KENILWORTH.—There are here interesting remains of earthworks of diverse ages and descriptions. The stately castle is based upon an earlier mount and court fort, some of the earth foundations of which are still traceable. Earthworks of contemporary origin once aided in the defence of the great mediæval stronghold of masonry; these are of two kinds: firstly, the scientifically designed embankments which were constructed for the purpose of damming up the waters of the two streams and the ancient pool in order to form the great lakes and broad moats which once encircled the castle; secondly, an elaborate system of ramparts and ditches, which formed strong outworks for the protection of the dam of the upper lake, and also of the approaches to the entrance gate situated upon it.

The spot where Kenilworth Castle stands was well chosen for defensive purposes; it is a knoll of rock and gravel which forms a headland just below the junction of two streams, viz. the Inchford brook on the south and one of its nameless tributaries on the west; on the east side there is also a little valley running down to the first named brook, which probably contained water and swamp in earlier days; the low lying ground at the junction of the two streams was originally an extensive pool, mention of which is made in the foundation charter to Kenilworth Abbey which was drawn up early in the twelfth century.

Upon this naturally strong site therefore some lord of the place in early days would seem to have constructed a mount and court fort of earth and timber. The extant traces of this have been carefully examined by the late Mr. G. T. Clark, and are well described by him.² He considered that the original moated mound, which is not now distinctly to be identified, occupied either a spot close to John of Gaunt's Hall or, and more probably, the site of the present Norman keep now called Cæsar's Tower; both of these buildings are seen to be connected with ancient earthworks, and the keep still encloses within its area an artificial mount, some 10 to 15 feet high, against which its walls are built. The inner ward of the castle apparently occupies the site of the principal courtyard of the early fort; it is about $1\frac{1}{4}$ acres in extent; its north-

¹ Bloxam in B'ham. and Mid. Inst. Arch. *Trans.* (1875), pp. 31, 38; Burgess in ditto (1872), p. 87.

² Clark's *Mil. Archit.* vol. ii. pp. 130-52.



ANCIENT DEFENSIVE EARTHWORKS

east corner is a right angle and its east and north sides are straight lines ; to the west and south its boundaries are irregular in outline, having two triangular platforms of artificially raised earth (which appear to be the remains of very early works) projecting beyond the present stone walls. The ground falls rapidly all round this court on its north, west and south sides, but on the east the slope is more gradual, and a deep ditch separates it from the outer ward. The latter enclosure and the gardens now lying to the north-west of it were thought by Mr. Clark to represent the secondary courtyard of the original earth fort ; they cover an area of about $7\frac{1}{2}$ acres. The stream, as we have seen, formed a natural defence to the early stronghold upon the west, and the pool protected the south ; a moat extended along the east side, and possibly also round to the north, where the present deep ditch was cut through the rock in mediæval times.

Passing from these early works, which have been so much altered by the erection of the later walls of masonry as to be only just traceable, the important mediæval earthworks outside the walls of the castle invite attention. Running in a south-easterly direction for a length of about 150 yards is an artificial bank thrown right across the valley from Mortimer's Tower to the Gallery or Flood Tower ; it is about 18 yards broad and in parts about 20 feet high ; this was constructed for the purpose of damming up the waters of the streams and pool, and raising their level so as to improve and enlarge the water defences around the castle on the south and west and north. The lake thus formed on the south was half a mile long and about 100 yards across and from 10 to 12 feet deep ; it covered an area of 111 acres.¹ At the south-east end of the great earthen dam was a ditch, 56 feet wide and 20 feet deep, which served as an overflow for the waters of the lake ; portions of the stonework of a sluice still remain ; the tower above, now called the Gallery, was at one time known as the Floodgate Tower. Besides controlling the level of the lake, this sluice was also used to cause its waters to flow into the encircling moats of the castle, for, in the words of the above named survey, they are 'to be let round about the castle at pleasure.' Beyond the dam, a second and shallower lake was likewise formed to protect the south-east side of the fortress ; this was made by the construction of another long bank of earth, which was apparently only sufficiently high to retain the water to a depth of 4 or 5 feet.

So important in the scheme of defences was the function of this great dam and its sluice considered, that it was deemed necessary to construct further extensive earthworks beyond them, in order to ensure their safety in time of attack. Accordingly we find that a tongue of land lying between the south side of the lake and a small water course which runs in a north-easterly direction into Inchford brook, has been

¹ Vide a survey made in the time of James I. ; quoted by Dugdale in his *Warw.* p. 174, from a copy in Cotton Library.

A HISTORY OF WARWICKSHIRE

scarpd into a crescent, presenting a convex front to the south-east some 300 yards in length ; this crescent is defended by an artificial bank some 20 feet high and 20 feet broad which has been raised upon it. On the top of this earthwork four circular mounds, the largest of which is 40 feet in diameter at its base, were also erected at intervals ; these mounds at a later date were called 'cavaliers,' and upon them mangonels were probably placed for defensive purposes. In front of this bank again is a wide fosse, 40 feet deep and 100 feet broad, which was formerly filled with water ; it has, to a large extent, been filled up for nearly half of its length by the earth thrown into it when the comparatively recent road running alongside of it to the north-east was made. All these formidable earthworks, now overgrown with trees and shrubs, are known as the 'Brays,' anciently 'Brayz.' Near their centre, opposite to the spot where the highway approaches them from the south-east, and separated from the road by the above-named deep ditch, are to be seen the remains of two circular stone bastions. These guarded the main entrance to the castle, which was originally by a road passing between them and then leading over several drawbridges and along the top of the dam to Mortimer's Tower. Beyond the Brays again, remains of still further earthworks, consisting of a slight bank and a ditch, are distinctly traceable.¹

Saxon origin has been claimed for the mount and court fort here ; but it is more probable that this was the 'castle' which, according to the register of Kenilworth Priory, was erected by the Norman lord soon after 1120. History throws light upon the date of several of the later earthworks, but these details must be dealt with in a subsequent volume.

KENT'S MOAT.—See Sheldon.

KINETON (8 miles east-south-east of Stratford-on-Avon).—The remains of some earthworks of the mount and court type are to be seen near the railway station of this once important little town ; they are known locally as King John's Castle.

The 'Castle' is situated at the bottom of the slope of Pittern Hill, on the right bank of a stream which skirts the south side of the town. The extant works consist chiefly of a round conical artificial mount, about 125 feet in diameter at its base, and with a truncated top measuring about 40 feet across. This mount formerly had what Gibson, writing in 1694, described as a 'broad deep ditch' round it,² only traces of which are now however to be made out. To the north and north-west of the mount or 'keep' are some fragments of ramparts and ditches, evidently remnants of the defences of a courtyard.

Various coins, some of them Roman, have been found upon the site of the castle, and some ancient pottery was also dug up when the railway station was made.³

¹ Dugdale's *Warw.* pp. 161-2 and 165-75 ; Clark's *Mil. Archit.* vol. i. p. 80 and vol. ii. pp. 130-52 ; Turner's *Shaks. Land*, pp. 107-25 ; Burgess' *Warw.* pp. 145-53.

² Camden's *Brit.* (Gibson ed. 1695), p. 510.

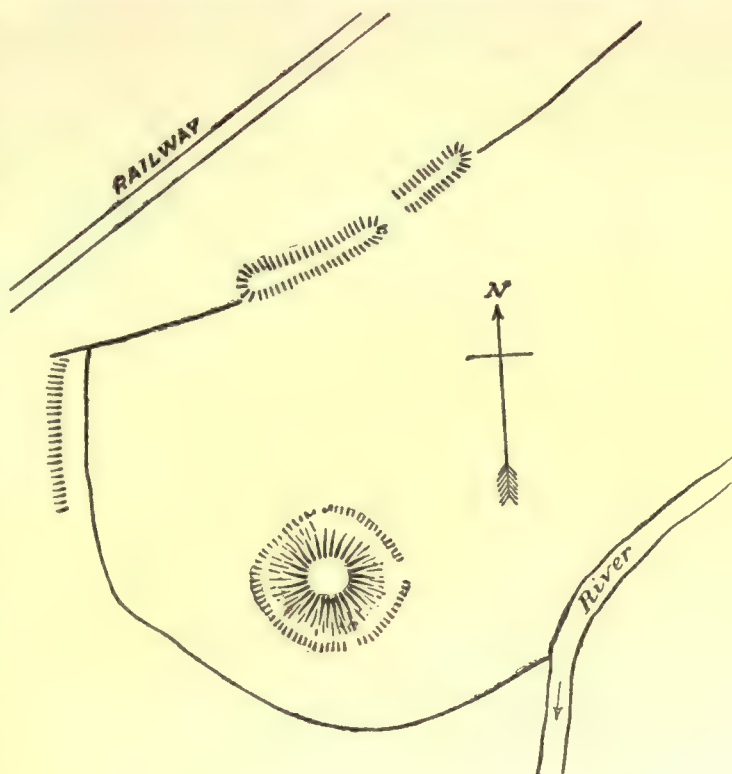
³ See article on 'Romano-British Warwickshire,' ante.

ANCIENT DEFENSIVE EARTHWORKS

The mount has often been supposed to be merely a sepulchral tumulus; but though the remains are now much mutilated, these earthworks without doubt represent one of the moated mount and court forts of which we have such perfect examples in the county at Brinklow and at Seckington.¹ As in these fortresses, the original stockades here were never replaced by subsequent walls of masonry; this shows that the stronghold fell early into disuse.

KINGTON GRANGE.—See Claverdon.

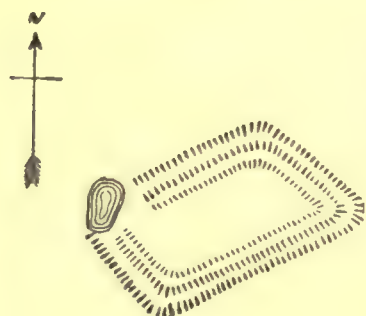
LADBROKE (7 miles south-east of Leamington).—There is a small entrenchment on the confines of this



KINGTON

King John's Castle

SCALE OF FEET
0 100 200 300



LADBROKE

SCALE OF FEET
0 100 200 300

parish, 2 miles east of the church of All Saints, and half way between Upper Radbourn Farm and the old Welsh road leading from Southam to Priors Hardwick.

It is situated on level ground, 360 feet above the sea; this slopes downwards at a short distance away on several sides, but is slightly lower than Lady Hill, on the other side of the hollow made by the tiny brook to the north-west. The remains now consist of little more than a ditch enclosing an irregular oblong area about twice as long as broad, and of rather more than an acre in extent. Formerly, however, according to a plan made by the late Mr. W. G. Fretton, F.S.A. in 1849,² there was a perfect rampart all round the

¹ Burgess in B'ham. and Mid. Inst. Arch. Trans. (1872), p. 83; Turner's *Shaks. Land*, p. 327.

² MS. in writer's possession.

A HISTORY OF WARWICKSHIRE

inside of this ditch, except where there was a gap just north-east of the west corner ; there is a small pool of water in the angle of the ditch at this point.

These works, besides having been described as prehistoric and as Roman, are sometimes said locally to have been thrown up by the troops at Southam during the Civil War in the seventeenth century ; but there is no known historical record of this, nor is there any proof of the suggested much earlier origin. Their appearance at present rather points to their being one of the ancient moated enclosures of which we have so many examples in the county.

LAPWORTH (8 miles north-west of Warwick).—Within the manor of Broom in the hamlet of Kingswood, and $1\frac{1}{4}$ miles east of the parish church of Lapworth, are to be seen the scant remains of a once important camp, known locally as Harborough Banks. This camp was situated upon the slopes of a slight hollow, with higher ground on three of its sides, the west, north, and east ; a little brook runs near its eastern side.

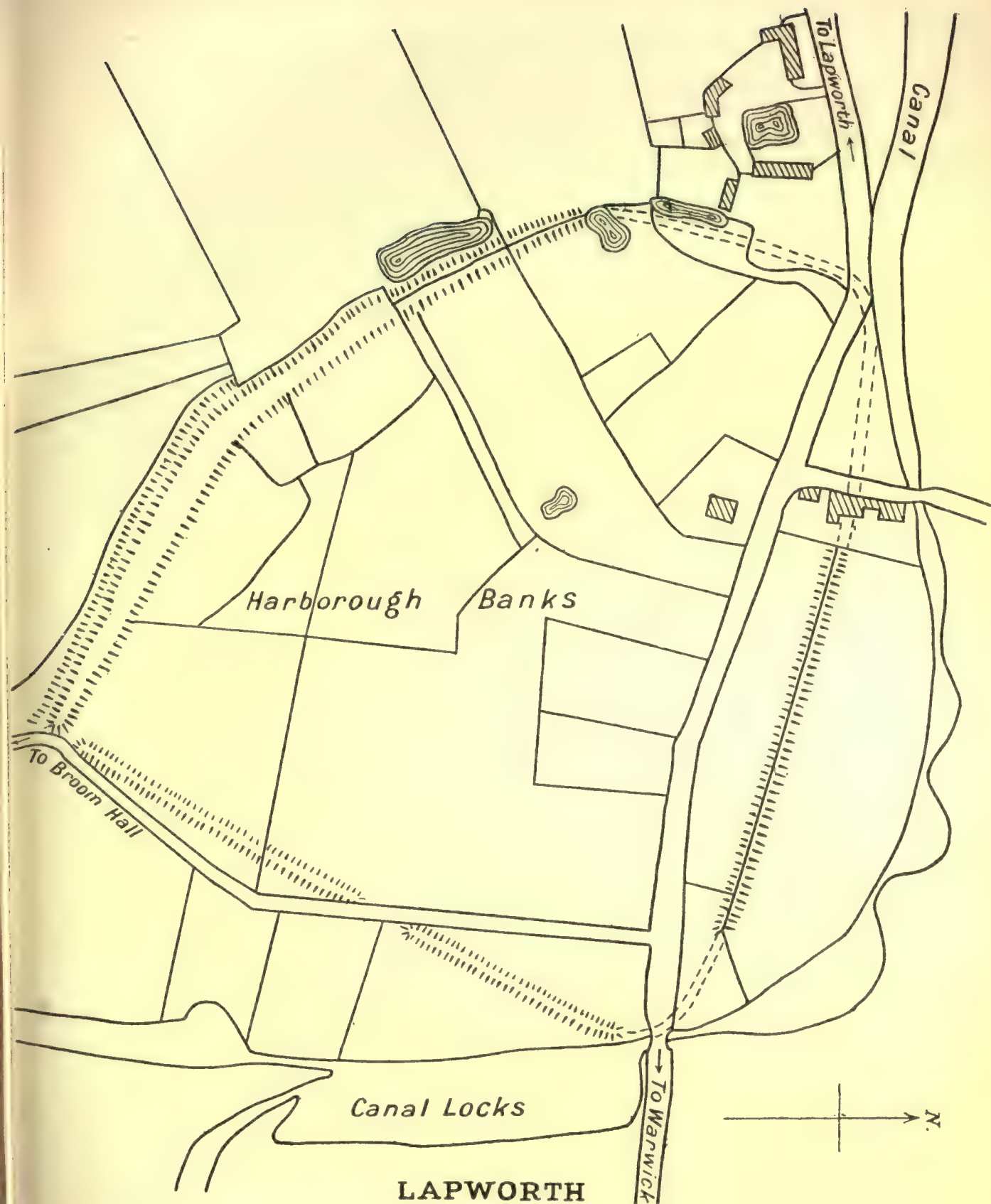
Unfortunately these earthworks have suffered what amounts very nearly to destruction at the hands of man. Their demolition was begun as early as 1730, for we read of their banks being dug into for gravel about that time.¹ But the main work of destruction took place as late as 1862, soon after an Inclosure Act was obtained by local landowners. The existing remains therefore are but fragmentary. They consist chiefly of a rampart and fosse running in a north-westerly direction for a distance of about 300 yards, beginning at an elbow in the lane leading from the Lapworth and Warwick road to Broom Hall ; the fosse here is dry, but it is probably traceable a little farther north in two short lengths which are now filled with water.

In a plan of the works, made about 1860,² the existing rampart is represented as continuing for another 200 yards towards the north from where it ends at present ; the plan also shows the same rampart as turning off at a right angle at its southern extremity and running thence north-north-east for a distance of about 300 yards ; here it apparently must have turned again almost at a right angle, for after an interval another length of rampart ran west-north-west for about 200 yards in a straight line parallel to the Warwick and Lapworth road. If this rampart formerly continued about 150 yards further in the same direction, and then turned round to join the defences still traceable on the west side of the enclosure, the interior area of the camp must have been at least as much as 25 acres. Its shape would thus have been an irregular oblong, but with the south-western and north-western sides joining in a curve instead of in an angle.³

¹ Dugdale's *Warw.* (ed. Thomas, 1730), p. 730.

² Hannett, *Forest of Arden* (1863), p. 12.

³ Apparently the only relics of antiquity known to have been found here are the following, viz. 'Something like the spout of an ewer,' unearthed when the banks were dug away for gravel prior to 1730, 'which when melted down proved to be metal very like what we call Prince's metal' (Dugdale's *Warw.* [ed. Thomas, 1730], p. 730), and a cannon-ball and portions of a pistol dug up about 1850.



LAPWORTH
Harborough Banks abt. 1860, after Hannett.

SCALE OF FEET
0 100 200 300

A HISTORY OF WARWICKSHIRE

Local antiquaries, including Bloxam, Burgess and Hannett, have called these works Roman, but they gave no evidence to support the assertion, and it is quite an improbable one.¹ The low ground chosen for the camp by its makers differentiates it from the earlier camps of refuge on the hill-tops; in this respect it is similar to the smaller-sized entrenchments at Tachbrook and at Ipsley; the camp also somewhat resembles these two strongholds in design, both in having some of its sides straight lines and at least some of its corners angular. One is induced to think that it may be of similar origin.

Rather over 2 miles to the south-west of Harborough Banks there are some further fragmentary remains of earthworks in this parish; they are on the top of an elevation bearing the name of Camp Hill, which lies on the left-hand side of the road leading from Lapworth to Henley in Arden, just after passing Liveridge Hill. The existing mound, from the summit of which there is a most commanding view, has been called a 'Roman outpost' by various writers²; but there does not appear to be any foundation for the statement, and its origin and connection remain obscure.

LIVERIDGE HILL.—See Lapworth.

LOXLEY ($3\frac{1}{2}$ miles west-south-west of Stratford-on-Avon).—There is a remarkable line of double and sometimes triple entrenchments running through this parish, traceable for a total length of over 3 miles. The earthworks extend along the northern face of the hill overlooking the valley of the Avon, in a direction roughly north-east and south-west; they commence near Walton, pass through the wood round the summit of Redhill and by Loxley, until they reach Goldicote just over the county boundary in Worcestershire. The entrenchments are very formidable in places, consisting of three ramparts one above the other, with two intervening ditches; in other parts they are not so imposing, being worn away through natural agencies or levelled down by the agriculturist. The plan and section here shown are reproduced from drawings, representing the best preserved portions of the earthworks, made by Mr. Burgess in 1875.

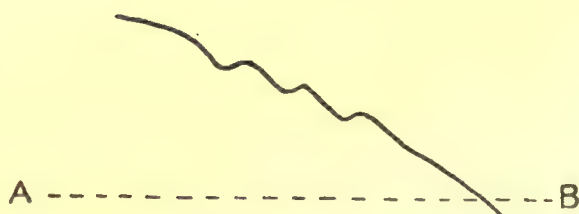
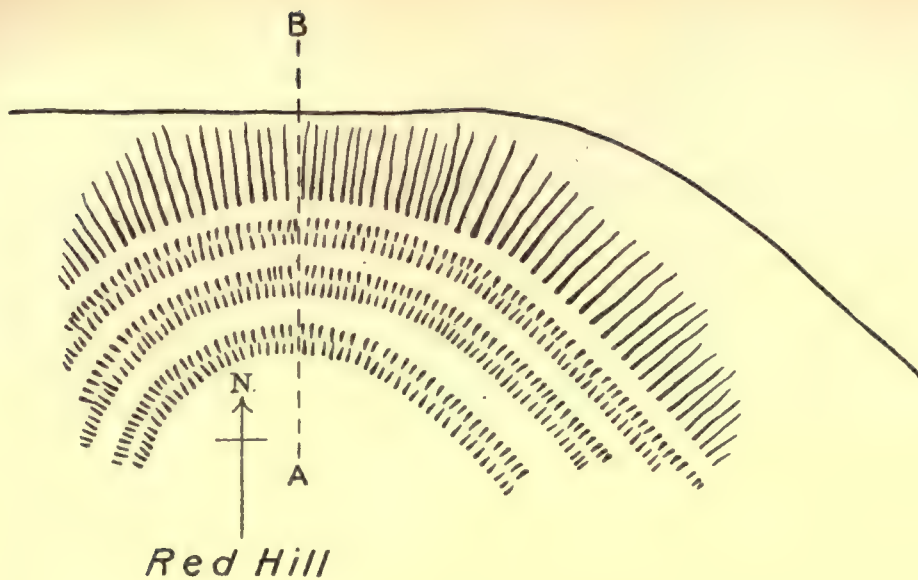
These remains have been attributed to a prehistoric age, and certain bronze celts similar to some found at Tadmorton Camp in Oxfordshire were unearthed on the hill above Loxley; but in the absence of excavation it is wiser not to hazard a conjecture as to the date of their origin. They would certainly appear to have been constructed for defensive purposes, as they are too formidable for a mere boundary line.³

MANCETTER (4 miles north-west of Nuneaton).—On the line of the Watling Street, at a distance of 700 yards east-north-east of the

¹ Hannett, *Forest of Arden* (1863), pp. 10, 12 and 144; Bloxam in B'ham. Mid. Inst. Arch. Trans. (1875), p. 32; Burgess in ditto (1872), p. 87.

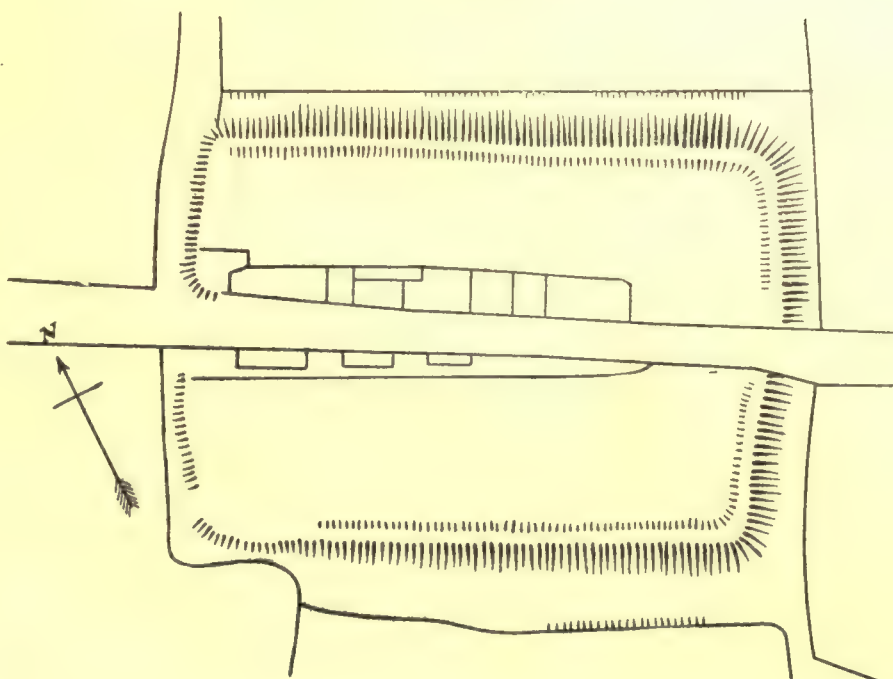
² Burgess in B'ham. and Mid. Inst. Arch. Trans. (1872), p. 86; Hannett's *Forest of Arden*, pp. 10, 13, 150; Turner, *Shaks. Land*, p. 191.

³ Bloxam in B'ham. and Mid. Inst. Arch. Trans. (1875), p. 31; Burgess in ditto (1872), p. 83, in Brit. Arch. Assoc. Journ. (1873), pp. 38, 44, and in Arch. Journ. vol. xxxiii. (1876), pp. 374-76; Timmins's *Warw.* p. 66.



LOXLEY
A.D. 1875, after Burgess

SCALE OF FEET
0 100 200 300



MANCETTER
A.D. 1872

SCALE OF FEET
0 100 200 300

A HISTORY OF WARWICKSHIRE

village church of St. Peter in this parish, are the remains of a rectangular earthwork of the variety described under class C. It lies upon almost level ground, about 300 yards away from the river Anker; the ancient Watling Street, which here forms the boundary between the counties of Warwick and Leicester, runs right through it and then descends a slight slope to the north-west and crosses the river. The Bull Inn and several houses now stand within the entrenchment upon either side of the street.

The internal area of this camp is about 6 acres; in shape it is an oblong, about 200 yards in length and 150 yards in breadth; its four corners are nearly rectangular; there appear to be two entrances only, at the points where the Roman road passes into it and leaves it. The defences are now much weather-worn, and they are apparently also considerably changed in aspect by building and ploughing. In 1872 Mr. Burgess described them as consisting of ramparts 6 feet in height and 20 feet broad at base¹; but when Dr. Stukeley visited the site about 1724, he wrote of ditches as well as banks, both of which he described as in good preservation. The remains have long been known locally by two different names, those on the Warwickshire side of Watling Street being called 'Castle Banks,' and those in Leicestershire 'Oufort (for Old Fort) Banks.'² Dr. Stukeley says that he was informed by the inhabitants that 'bricks and exceeding strong mortar, with coins of brass, silver and some gold, had been dug up here,' and Dugdale, and also Burton, a century earlier, both speak of Roman coins having been ploughed up.³

It is now generally conceded that this Roman fortified station was the *Manduessedum* of Antonine's Itinerary in Britain. For further details of the Roman remains found in the vicinity of the earthwork see 'Romano-British Warwickshire.'

METCHLEY.—See Edgbaston.

NADBURY.—See Ratley.

OAKLEY WOOD.—See Tachbrooke.

OLDBURY.—See Hartshill.

RADBOURN.—See Ladbroke.

RATLEY (12 miles east-south-east of Stratford-on-Avon).—The remains of the extensive earthworks called Nadbury Camp, anciently known as Northbury,⁴ are still to be seen on the hill above this village; they are about two-thirds of a mile north-north-east of the church, and upon the boundary of the parish.

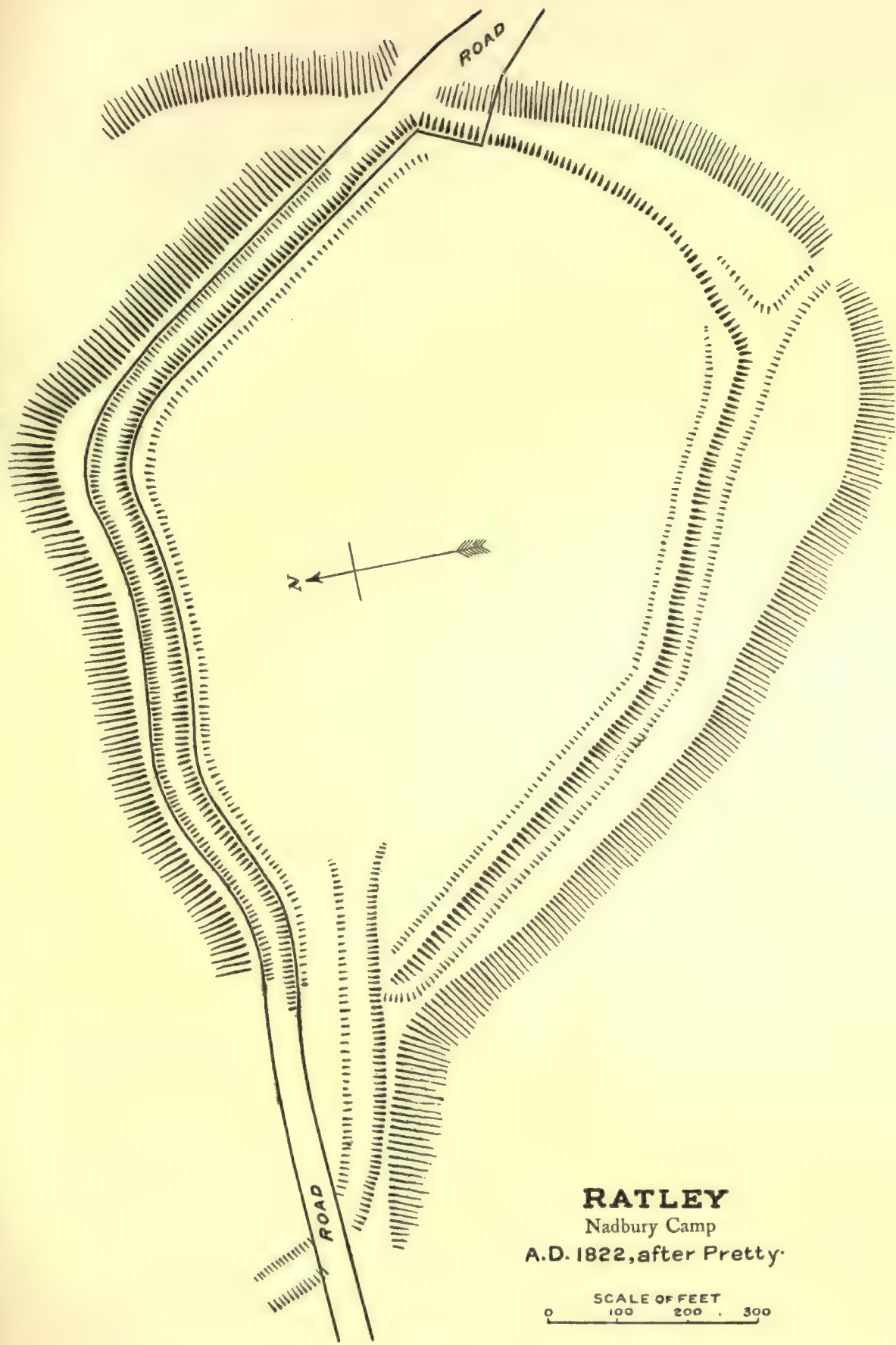
The camp is one of the largest in the county, and is situated on a jutting promontory of the imposing Edge Hills at an altitude of 700 feet; it has a most commanding position at the top of a steep escarpment, and overlooks the entire Warwickshire vale to the north, as far as the distant highlands of the ancient Forest of Arden on the further side of the Avon; the ground falls away steeply also to the south and

¹ Burgess in B'ham. and Mid. Inst. *Trans.* (1872), p. 88.

² See Survey made 1812; B'ham. and Mid. Inst. *Trans.* (1900), p. 2.

³ Dugdale's *Warw.* p. 761; Stukeley's *Itinerarium Curiosum* (1776); Burton's MS. of about 1620, quoted in Nichols' *Leicestershire*, vol. iv. p. 1027.

⁴ See Dugdale MSS. quoted Dugdale *Warw.* (Hamper's copy), p. 389.



RATLEY
Nadbury Camp
A.D. 1822, after Pretty

SCALE OF FEET
0 100 200 300

A HISTORY OF WARWICKSHIRE

west, where a little stream runs at the bottom of a valley. In shape the stronghold much resembles a pear, with its pointed end towards the west; the two corners at the eastern end approach the rectangular. The entrenchments enclose an area of about 17 acres.

The defensive earthworks of the camp have now, unfortunately, become very much worn by denudation and have also been sadly mutilated by man. The fortress was sufficiently striking in appearance in Queen Elizabeth's time to be remarked upon by Camden¹; Dugdale, who took notice of but few remains of this kind, described the place 250 years ago as a 'great fortification'; and even early in the last century, the entrenchments were still formidable looking, consisting of double ramparts, rising one above the other, with an intervening ditch; this is shown by a careful plan made in 1822² by Mr. Edward Pretty, drawing-master at Rugby School, which is here reproduced in its main details. The only ancient entrance to the camp was at the western extremity; it was approached by a 'hollow way' which curved round from a north-westerly direction; this was crossed in later days by the present highway from Ratley and Radway, which enters the area of the camp at the west, and runs along in the hollow of its northern fosse, until it quits it again at its north-east corner.

Dugdale records that 'near unto' this camp 'in our Memory was found a Sword of Brasse, and a Battaill Axe,' and his MS. notes add to this 'with the bones of two men.'³ He evidently here describes a bronze sword and palstave, relics which point to the considerable antiquity of the earthworks. The camp apparently forms a link in the long chain of prehistoric fortresses, which extends from south to north along the tops of the Cotswolds and the highlands of the Oxfordshire border, and reaches as far as the great entrenchments at Borough Hill near Daventry in Northamptonshire.⁴

SECKINGTON (4 miles north-east of Tamworth)—Close to this village, and 150 yards north-west of the parish church, are some very perfect little earthworks of the moated mount and court type; they are much like those at Brinklow, only smaller and with single, instead of double, courtyard adjacent to the mount.

The works occupy an excellent position on the highest part of the slight elevation upon which the village is located. The area covered by the mount and its courtyard is about $2\frac{1}{2}$ acres. The mount itself is a conical hill, truncated at the top; it is about 30 feet high and 140 to 150 feet in diameter at its base; its flat top measures about 50 feet across. Encircling this mount is a ditch, now about 30 feet wide and from 10 to 12 feet deep. To the south and south-east lies the courtyard, crescent-like in shape, and further protecting the mount for about

¹ Camden's *Brit.* (Gibson ed. 1695), p. 499.

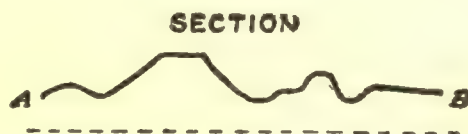
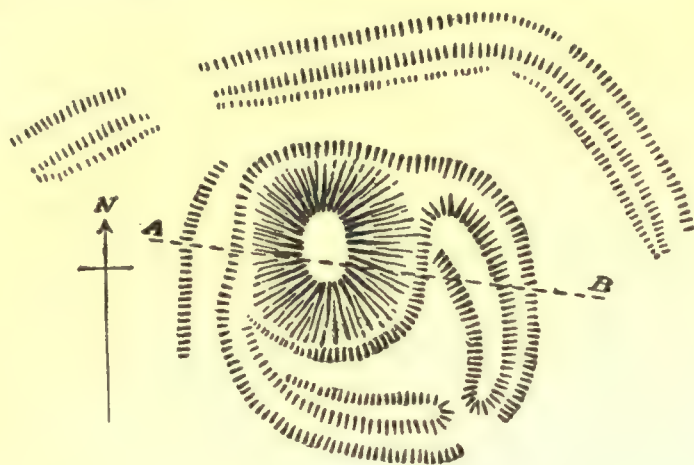
² Preserved in Dugdale's *Warw.* (Hamper's copy), p. 389.

³ Ibid. p. 389.

⁴ Bloxam in B'ham. Phil. Inst. *Trans.*, vol. iv. no. 16; Dugdale's *Warw.* p. 389; Burgess in B'ham. and Mid. Inst. Arch. *Trans.* (1872), p. 82, and in *Brit. Arch. Assoc. Journ.* (1873), p. 38; Turner's *Shaks. Land*, p. 337.

ANCIENT DEFENSIVE EARTHWORKS

half of its circumference ; it likewise is defended by a ditch, with a rampart on the inner side ; both rampart and ditch increase in size in a curious way in their course round from south-west by south-east to north, until the bank abutting upon the fosse belonging to the mount is fully two-thirds of the height of the latter.¹ All these earthworks have suffered considerably in course of ages by denudation. Dugdale records that the mount in his day was as much as 42 feet high, and measured only 23 feet across its flat summit ; also that the ditch was then only 20 feet wide at the top, with a depth of 12 feet. The present measurements, given above, show that the mount and banks have become considerably reduced in height, and the tops of ditches have also become wider in the last 250 years. Dugdale noticed that this natural erosion was continually in progress, for he remarked that the dimensions he gave were evidently 'much lesse than what they were at first, by Reason that the Earth is so shrunk down.'² An entrance into the courtyard at its south-east corner is possibly the original one ; at any rate it existed in Dugdale's time. As at Brinklow, there are also remains of a further and much larger enclosure at



SECKINGTON.

SCALE OF FEET
0 100 200 300

Seckington, the defences of which may have encircled, but did not join on to the inner works of moated mount and court ; for to the north-north-east and east traces of a long rampart and ditch are to be seen, the latter still containing water in parts. No signs of any masonry are apparent upon either the mount or the ramparts of this little fortress.

These interesting earthworks have attracted the attention of many antiquaries even from the days of Queen Elizabeth, when Camden makes mention of them.³ Some have ascribed their origin to the ancient

¹ See section.

² Dugdale's *Warw.* p. 799.

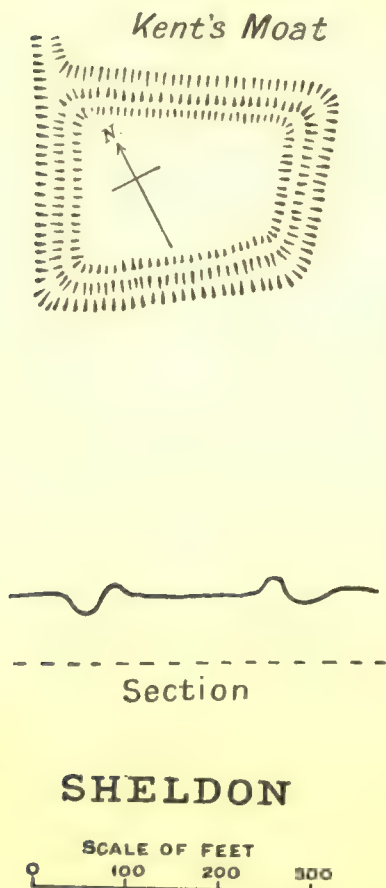
³ Camden's *Brit.* (Gibson's ed. 1695), p. 507.

A HISTORY OF WARWICKSHIRE

Britons and some to the Romans, Camden even making them an imaginary military station which he called *Secandunum*, an unfortunate statement which has been frequently repeated by local writers down to the present day ; others again have considered the mound to be a sepulchral tumulus, and apportioned it as a burial place for the slain in the great battle which was fought here 755 A.D. But all these surmises are incorrect, and though history is apparently silent as to its actual maker, there is no doubt that these very perfect earthworks are the remains of the moated mount and court castle of some Saxon or Norman lord of Seckington. Dugdale records that the villagers in his day still called the work 'the Castle.' It is further evident that this castle, like the strongholds at Brinklow, at Kineton and at Castle Bromwich, must somewhat early in its existence have fallen into disuse, as no walls of stone were ever subsequently erected upon the earthworks to take the place of the original palisades of wood.¹

SELLY OAK.—See Edgbaston.

SHELDON (near Birmingham).—In the north-west corner of this parish and about half a mile to the east of the adjoining village of Yardley is an irregular oblong entrenchment known as Kent's Moat. In contradistinction to the usual moat in a hollow, this earthwork is situated upon slightly elevated ground. Its defences enclose an area of about an acre and a half ; they consist of an inner rampart and an outer ditch, neither of which are now as formidable as they probably once were, owing to the effects of several hundred years' denudation. There are no signs of buildings within the area, and Hutton, at the end of the eighteenth century, wrote that local tradition had then quite lost the recollection of any ; the edifice which must once have existed there was probably only of wood.²



SOLIHULL (south of Birmingham).—There are remains of what was once a camp of large size, situated at Solihull Lodge at the extreme west of this parish, and on the left bank of the little river Cole. A century ago it seems to have been called 'Danes' Camp,' but it is now known as the 'Berry Mound.'

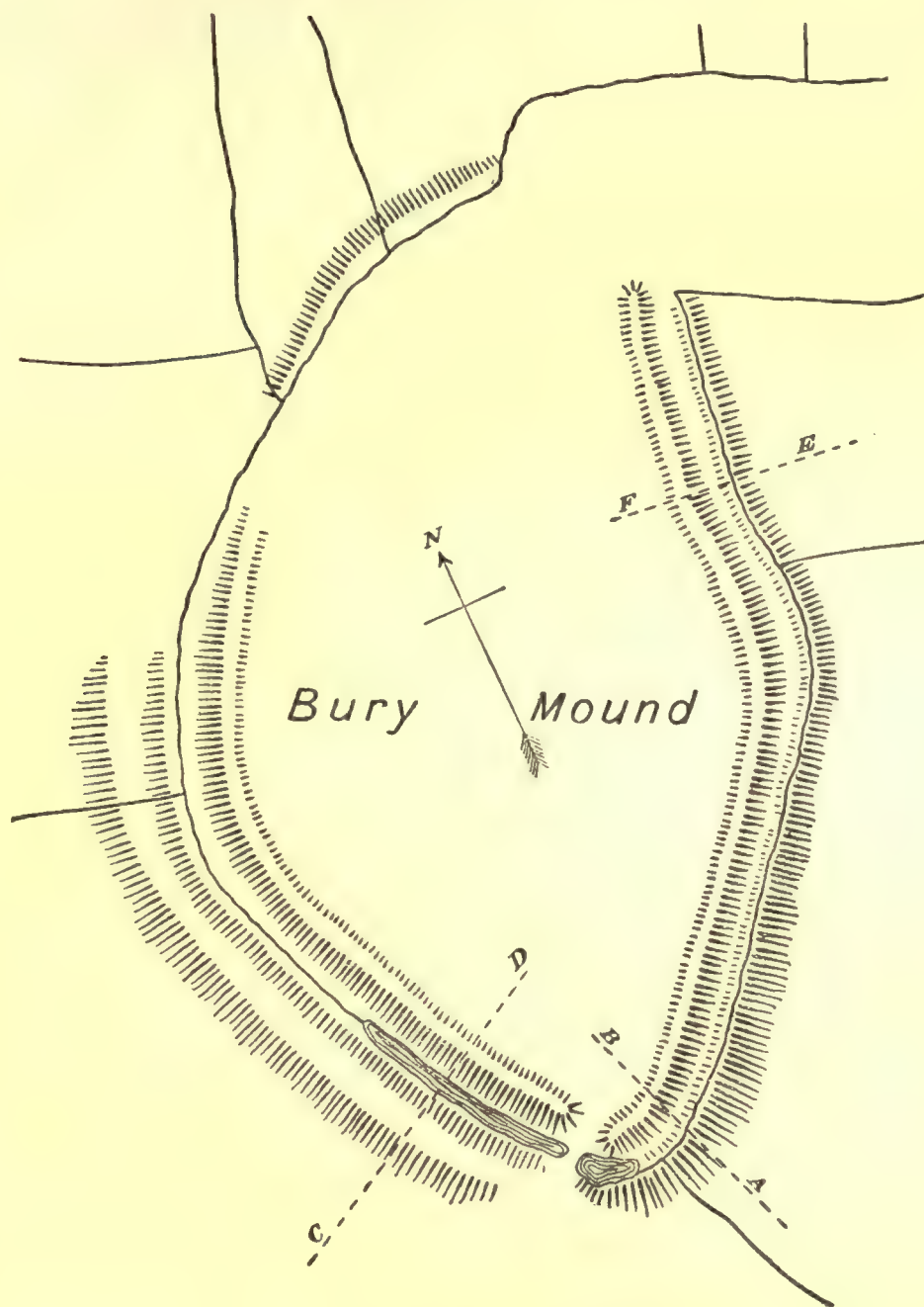
The earthworks are upon a low-lying

¹ Dugdale's *Warw.* p. 799 ; Clark in *Arch. Inst. Journ.* xxxix. p. 372, B'ham. and Mid. Inst. *Arch. Trans.* (1900), p. 89 ; Burgess in ditto (1872), p. 85, and in *Brit. Arch. Assoc. Journ.* (1873) pp. 39, 43 ; Timmins's *Warw.* pp. 4, 61.

² Hutton's *B'ham.* p. 418 ; Burgess in B'ham and Mid. Inst. *Arch. Trans.* (1872), p. 88.

ANCIENT DEFENSIVE EARTHWORKS

hill ; this is surrounded by running streams on three of its sides—close below on the west and north, and at a short distance away on the east.



SOLIHULL
A.D. 1834, after Hamper

SCALE OF FEET
0 100 200 300

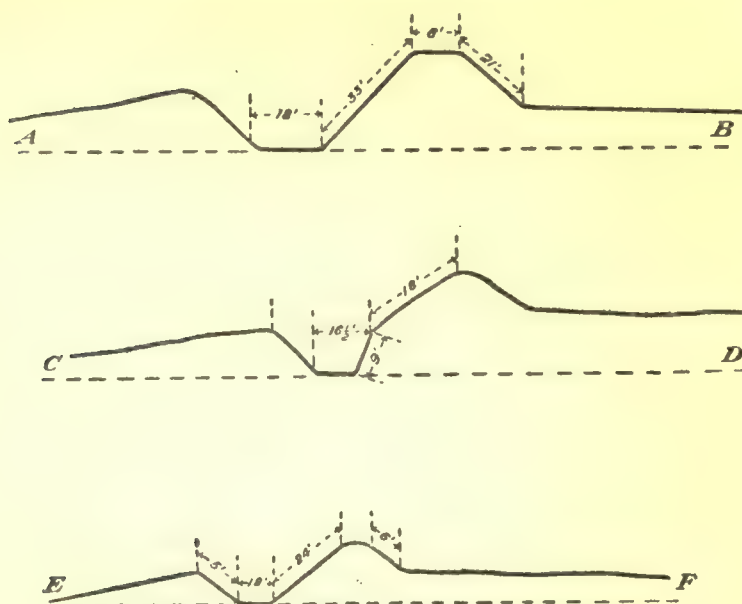
The camp was originally more or less of an oval, with two pointed ends, one to the south and the other to the north-east ; its inner defences were about 850 yards in circumference and enclosed an area of nearly 11 acres.

A HISTORY OF WARWICKSHIRE

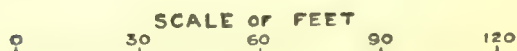
Unfortunately these important remains have suffered much in modern times at the hands of man. At the end of the eighteenth century the ramparts were described by Hutton as in tolerable preservation;¹ as late as 1831 they were still traceable all round,² and in 1834, when Hamper made a plan of them,³ they were perfect for three-fourths of the distance, and traceable further. But between 1865 and 1871, several hundred yards of the banks were thrown into the ditches below by the occupier of the land; and by 1882 only about 300 yards of the ramparts at the southern end of the camp remained intact, together with a few remnants around the northern side.⁴ In 1872 the defences

at the south end were described by Burgess as consisting of a rampart, 20 feet high in parts (measured from the bottom of the fosse), and about 40 to 50 feet in breadth at its base; outside this was a ditch, beyond which was a second rampart, about half the size of the first; below this again traces of a third vallum were visible upon the western side.⁵ The sections here figured, and which were made by Hamper as far back as 1834, show the inner defences in greater detail.

SECTIONS IN 1834, HAMPER



SOLIHULL



There is an entrance which is apparently ancient at the south end; a cutting now to be seen through the eastern bank did not exist in 1834. Water still lies in the moat below the inner rampart on the south-west side. After Nadbury, which it somewhat resembles both in its shape and in the form of its defences, this camp is one of the largest of its class in the county. It must once have been a very formidable stronghold; besides having apparently triple ramparts, it had also doubtless the protection of the swamps and the morasses which would spread out along the still boggy

¹ Hutton's *B'ham.* p. 460.

² Preserved in Dugdale's *Warw.* (Bloxam's copy).

³ Burgess in *B'ham. and Mid. Inst. Arch. Trans.* (1872), p. 87, and in *Brit. Arch. Assoc. Journ.* (1873), pp. 39, 42.

⁴ O.S. Map, 1 in. (1831).

⁵ O.S. Map, 6 in. (1882).

ANCIENT DEFENSIVE EARTHWORKS

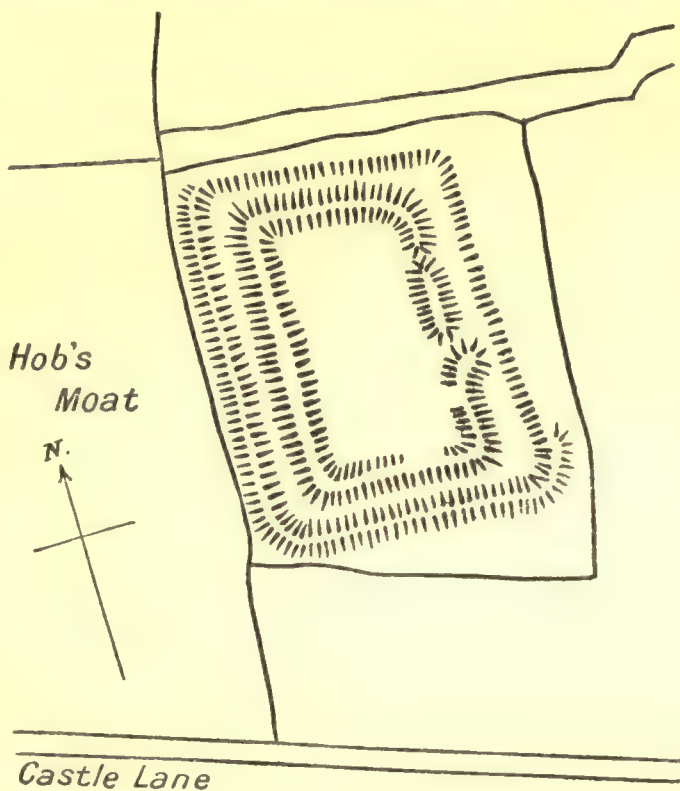
courses of the little streams which surround it upon three of its sides ; the advantages offered by these natural defences would seem to explain the selection of the existing site for the stronghold in preference to higher ground available close at hand.

Though the area within the ramparts has been frequently ploughed, there is no record of any antiquities having been unearthed here to throw light upon the age of the entrenchments ; from their general appearance, however, they would seem to be of early origin, and intermediate between the two types previously described under letters *B^I* and *B^{II}*. Perhaps the former name of 'Danes' Camp' may point to a temporary occupation of the more ancient stronghold by these people.

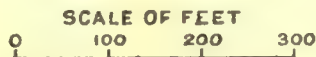
HOB'S MOAT.—At the northern end of this extensive parish are to be seen some ancient entrenchments of quite a different age and type, and now known as above. In Dugdale's time the place was called Hogg's Moat,¹ and Hutton records that it was once called Odingsell's Moat, a name preserved in the adjoining farmhouse called Odensil, and also recalling certain owners of the estate in the thirteenth century.

These entrenchments are oblong in shape and enclose an interior area of about 2 acres ; they consist of a double rampart with an intervening fosse which, together, cover about 2 acres more. A century ago there were remains of a second fosse beyond the outer rampart, and Hutton relates that the total area covered by the earthworks and their enclosure was 5 acres ; he described the inner moat as very formidable, about 20 feet deep and 90 feet across from the crown of one bank to that of the other.²

There are now no signs of any building within this moated area ; nor were there any 250 years ago, when Dugdale visited the spot and



SOLIHULL

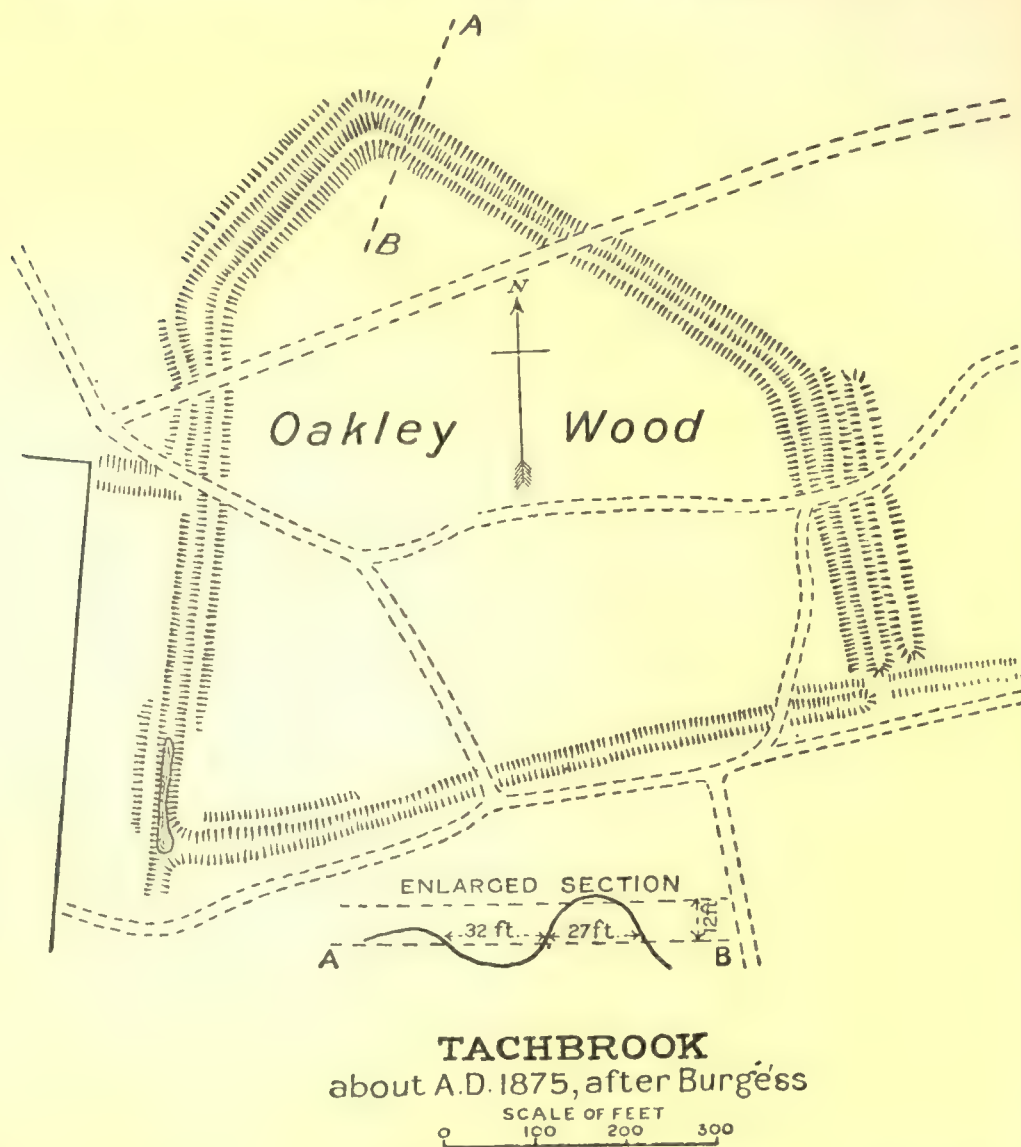


¹ Dugdale's *Warw.* p. 662.

² Hutton's *B'ham.* pp. 414-16.

A HISTORY OF WARWICKSHIRE

found a number of ancient oaks growing in the interior. He says that there was a tradition in the neighbourhood in his day that a 'castle' was 'long since situated' within the moats; this would probably give the name to the Castle Lane which still approaches the entrenchments from Ulverlie Green.¹ Most probably the structure surrounded by these strong double ramparts and ditches was only of wood.



TACHBROOK (3 miles south-west of Warwick).—An entrenchment in good preservation and of considerable size lies in Oakley Wood, on the right-hand side of the Warwick and Banbury Road, about $1\frac{1}{4}$ miles south-south-east of the parish church of Bishop's Tachbrook. It is upon fairly level ground between Ashorne Hill to the south and some rounded elevations in Tachbrook to the north.

¹ Dugdale's *Warw.* p. 662; Hannett, *Forest of Arden*, pp. 278-80.

ANCIENT DEFENSIVE EARTHWORKS

The camp is roughly triangular in form, though actually its sides are five in number ; it encloses an area of about 9 acres. The defences, which are still formidable on the north side, consist primarily of a rampart, protected externally by a ditch ; beyond this again there are remnants in some places of a second rampart and ditch. There are further banks and trenches to be seen within the wood, which probably form outworks to the main fort. The height of the rampart at the northern apex of the camp is 12 feet with a breadth at its base of 27 feet ; the ditch defending it measures 32 feet across.

Local antiquaries have invariably described these remains as Roman, without apparently any kind of proof for the assertion.¹ No antiquities of any kind are known to have been dug up here, to afford a clue either to the occupiers or the makers of the earthworks. As far as mere outward appearances go, the stronghold more or less resembles some of the works of class *B^{II}* ; but the site requires exploration with the spade before any definite opinion as to age or origin can safely be expressed.

TAMWORTH.—The massive tower called the castle stands upon the earthwork keep of an ancient mount and court fort of class *E*. This fort again lies in the corner of what was once a rectangular entrenched area of considerable extent.

The site of the mount and court stronghold is upon the right bank of the river Tame, just below the point where it is joined by its tributary the Anker. It is within the county of Warwick, while half of the town of Tamworth, including a portion of the large rectangular entrenched area, is in Staffordshire.

Entering the small modern park which now surrounds the mediaeval castle, we see the solid tower placed upon the top of a round hill. This hill is an earthen mount of artificial origin ; it measures about 250 feet in diameter at its base, and is about 50 feet in height ; it is conical in shape, with a truncated summit measuring nearly 100 feet across. On the east side of this mount is to be seen a portion of its ancient moat ; we are also reminded of the former existence of a similar excavation on the west side by the name of a street, the 'Hollow Way,' which occupies its former site. Ninety years ago the fosse around the mount was still almost perfect. A writer in *The Gentleman's Magazine* for 1813 describes the keep as then encircled by a deep ditch for two-thirds of its circumference on the landward side ; this fosse, he remarks, was 'probably always, as now, dry, being above the level of the river,' which defended it upon its remaining side.²

Adjoining this moated mount on its south-east side, and about 15 feet above the water of the Tame, is a roughly triangular platform of earth, which is apparently more or less artificial ; its south bank, facing the river, is straight ; that on the east is at present concave, but was

¹ Burgess in *B'ham. and Mid. Inst. Arch. Trans.* (1872), p. 83, and in *Arch. Journ.* vol. xxxiii. (1876), p. 375 ; Bloxam in *B'ham. and Mid. Inst. Arch. Trans.* (1875), p. 32 ; Turner's *Shaks. Land*, p. 309.

² *Gents. Mag.* (1813) pt. i. pp. 592-3.

A HISTORY OF WARWICKSHIRE

perhaps formerly also straight. The platform was probably once defended by an encircling rampart and ditch, and would form the usual courtyard to the moated mount keep.

Outside the limits of this moated mount and court fort there are further considerable remains of earthworks to be seen in Tamworth upon the east side of the castle and town ; these entrenchments have long borne the name of the King's Ditch, and are sometimes known as Offa's Dyke, in reference, as has been supposed, to the great Mercian sovereign who once had his palace here. Mr. Clark described these defences in 1884 as consisting of a raised bank and a ditch (the latter more or less filled up), beyond which was a slope representing a *glacis* ; he traced them from the banks of the Anker below Bole bridge for about 300 yards to the north, where they turned at a right angle ; within this corner was a sort of earth tump, which people living 'remembered,' he says, 'to be somewhat larger.' Mr. Clark wrote of the works as being traceable from this angle in a straight line in an eastern direction nearly as far as the cross-road from Seckington, after which buildings obscured their course.¹ Two hundred and fifty years ago, in Dugdale's time, the King's Ditch was still intact round the three sides of the town which were not already defended by the river Tame. He described a

vast Ditch which, stretching forth in a streight line from the River Anker somewhat below Bowl Brig, then making a right Angle, keepeth on its course paralell to the River for the Space of neer four Hundred Paces ; and so returning by another right Angle, runs into Tame below Lady Bridg ; whereby the ground within the Precincts thereof is of a Quadrangular forme. Which Ditch [he goes on to say] though much filled up in most Places, appears to have been at least xlv. Foot broad, as by Measure I have observed.²

The earthworks at Tamworth would therefore seem to have consisted primarily of a moated mount fort with an adjacent courtyard, which courtyard, like those at Castle Bromwich and at Warwick, was apparently angular in outline, instead of crescentic, as more usual. This mount and court fort lay at the south-west corner of a large quadrangle which was defended by a rampart and fosse ; the latter enclosure may either have been constructed as an addition to the first-named, or it may have been a work of much earlier origin, as indeed its position, lying as it does in two counties, would seem to indicate.

The origin of these various earthworks at Tamworth has been much discussed.³ Many authorities have dated the rampart and fosse of the large outer area as far back as the time of the Romans, basing their argument upon the quadrangular form of the enclosure ; but no Roman antiquities have been brought to light to support this theory. Others have considered that they were the defences of the palace and town of the early Saxon kings who were located here ; this is possible, though, with the exception of the name 'Offa's Dyke,' we have no actual evidence of it. Early tradition in Tamworth, as in the similar case of

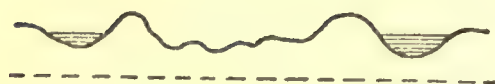
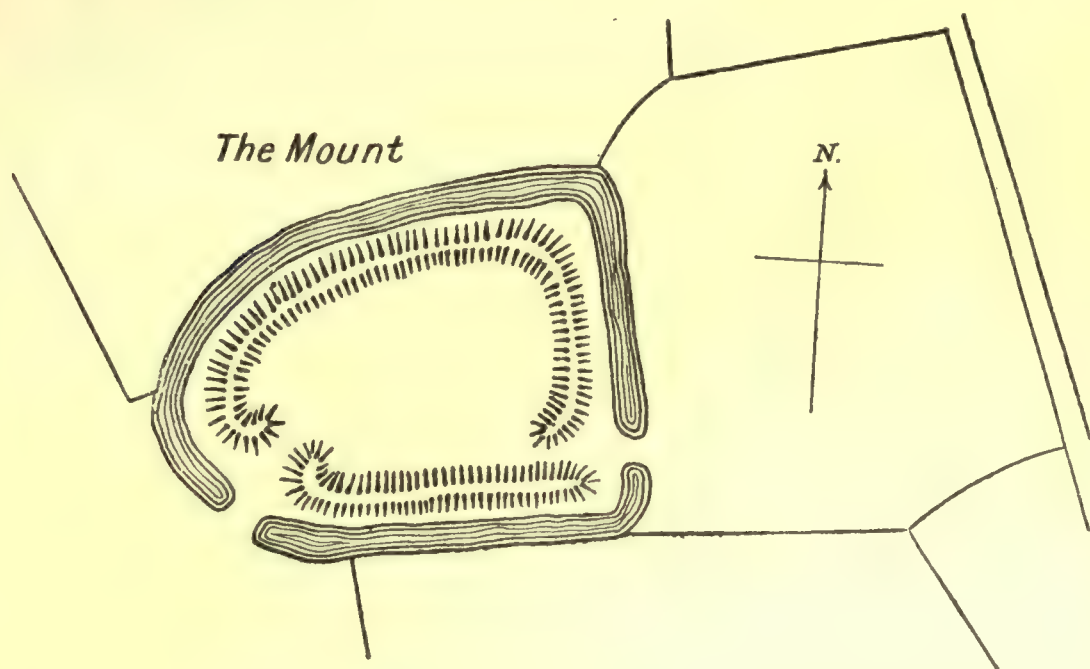
¹ Clark's *Mil. Archit.*, vol. i. p. 20, vol. ii. pp. 481-8.

² Dugdale's *Warw.* pp. 802-8.

³ Timmins's *Warw.*, pp. 71, 83, 234-5.

ANCIENT DEFENSIVE EARTHWORKS

Warwick, has persistently identified this moated mount with the fortress recorded in the Anglo Saxon Chronicle to have been built upon the spot by Ethelfleda, the Lady of the Mercians, in the year 913.¹ Such tradition was noted in the Chronicle called by the name of Matthew of Westminster as early as the fourteenth century. On the other hand, the



Section, after Burgess

TANWORTH

SCALE OF FEET
0 100 200 300

whole of the present mount and court fort may have been the later work of one of the Norman custodians of the 'castle' of Tamworth. Careful excavation is required to settle the question.

TANWORTH (8 miles south of Birmingham).—At Cheswick Green,

¹ *Angl.-Sax. Chron.* (Rolls Ser.), i. 186, 187.

A HISTORY OF WARWICKSHIRE

rather more than half way between the village of Tanworth and that of Solihull, is an ancient earthwork surrounded by a moat and called 'The Mount.' It is in a strong defensive position, on the top of a projecting triangle of high ground in a corner made by the valley of the Blythe; which stream, after running from north to south on its western side, turns off sharply to the east and protects it on the south.

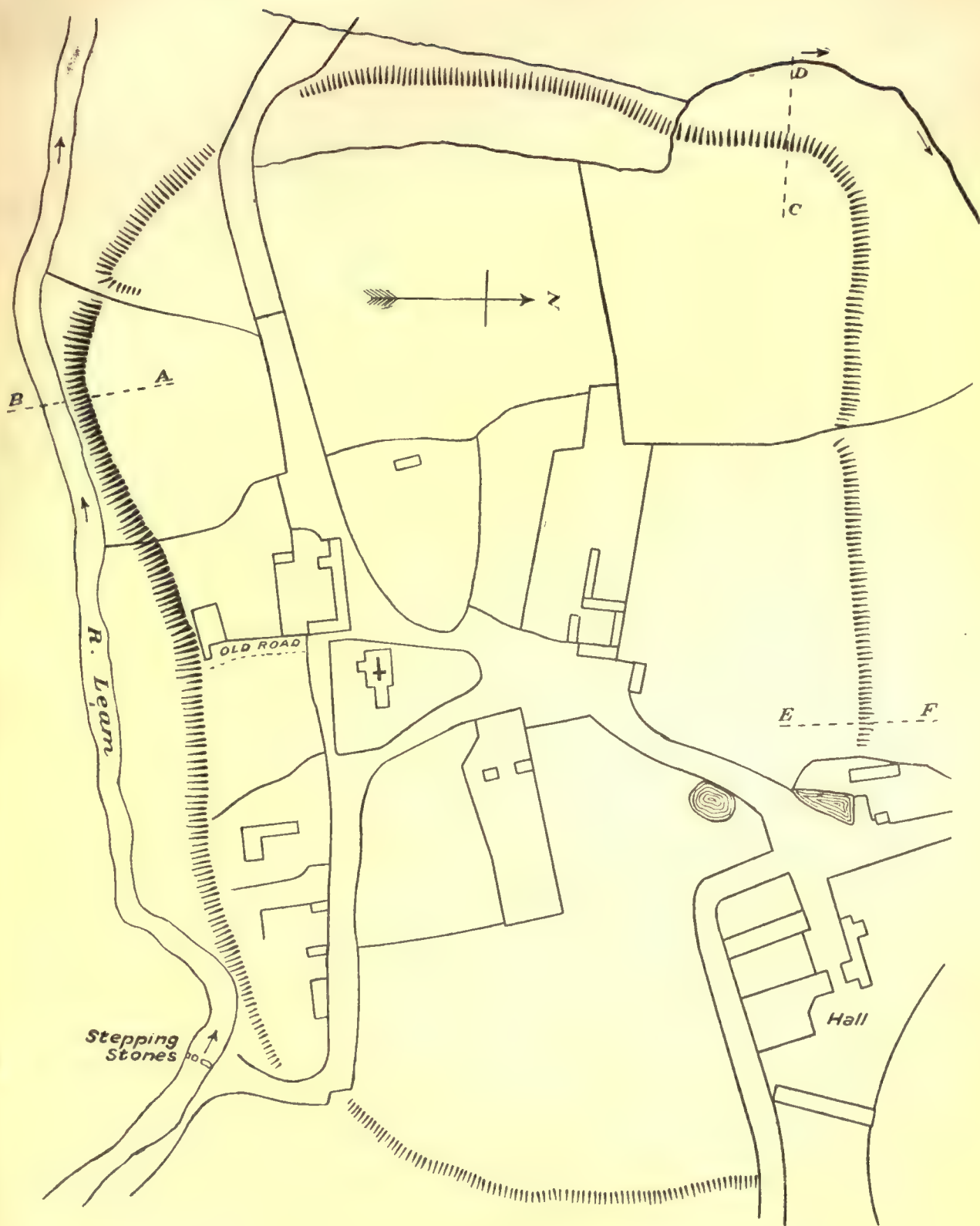
The remains consist of an oblong area encircled by a deep moat, on the inner side of which there is a strong earthen rampart; the moat is square at its eastern and rounded at its western end. The works with their enclosure cover about a couple of acres. The moat is from 18 to 20 feet wide across the surface of the water that now lies within it; the vallum is in places as much as 60 feet broad and 20 feet high. An unusual feature in connection with this stronghold is that parts of the interior area, instead of being higher, appear to be lower than the level of the water of the encircling moat. There are two entrances to the enclosure made by embankments across the moat and corresponding breaches in the rampart; one is at the south-east and the other at the south-west. Mr. Burgess thought that there were traces of an outer enclosure or court abutting on the moat on its eastern side.¹

Nothing is known of the history of this ancient moated stronghold. Dugdale wrote that 'by the Forme of it and the Depth of its Trenches' it seemed to him to be a Roman work²; but this is quite unlikely. In some ways it resembles the earthwork of uncertain age known as the 'Castle Hills' at Fillongley.

WAPPENBURY (4 miles north-east of Leamington.)—This little village is situated close to the right bank of the river Leam, and about a mile to the west of the ancient Fosse Way. It was formerly well-nigh enclosed by extensive entrenchments surrounding an area roughly oblong in shape and about 20 acres in extent. The earthworks are now much denuded and also altered in form, and they have in places become almost indistinguishable. Their course is, or was, as follows: from the ford and stepping-stones across the river at the south-east of the village, along the right bank of the Leam in a straight line slightly south of west for a distance of 350 yards; at this point they take a north-westerly direction for nearly 200 yards, to a rounded corner, and then turn north and run in an almost direct but somewhat broken line for 300 yards as far as another corner which is almost a right angle; from this they run directly east for over 250 yards, nearly up to the road by Wappenbury Hall, where all traces of them disappear. On the east side of the village no remains whatever are shown upon the 6-inch ordnance survey; but in a plan made probably sixty or seventy years ago, and now preserved in Mr. Bloxam's copy of 'Dugdale' in Rugby School library, a bank runs from north to south, at a distance of about a hundred yards east of the church, back to the stepping-stones, where it joins the southern rampart in a rounded corner.

¹ Burgess in B'ham. and Mid. Inst. Arch. *Trans.* (1872), p. 87.

² Dugdale's *Warw.* p. 549.

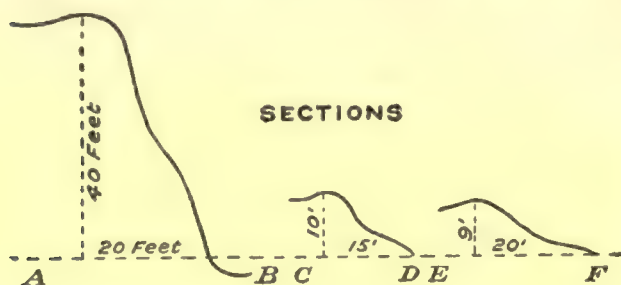


WAPPENBURY
about A.D. 1830, after Bloxam

SCALE OF FEET
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A HISTORY OF WARWICKSHIRE

Sections of the ramparts from the above-named plan are here given, from which it will be seen that the interior area of the camp is raised above the neighbouring ground level some 6 to 8 feet upon



WAPPENBURY,
about A.D. 1830 after Bloxam

the north and west sides, and as much as 40 feet on the south along the banks of the river; the remnants of a vallum are shown upon the top of the works on the north and west sides, but no ditches; the latter have probably been filled up at some time or other by local cultivators of the soil.

It will thus be seen that the church and the

few houses which stand near it are in the interior of a roughly parallel-sided oblong entrenchment; the churchyard lies rather south of the central point of this, and from it three ancient roads, now in two instances little more than field lanes, take their courses approximately in the direction of west, north and east; according to the old Bloxam plan there appears to have been a fourth road leading south to the river, passing by some buildings to the south-west of the church.

These earthworks were considered by Bloxam, Burgess and others, to be Roman,¹ on account of the oblong form of the area enclosed, and of the position of the church and roads radiating therefrom; but unless we accept a vague report of Roman tiles having been found to the south of the churchyard, no discoveries of antiquities appear to have been made here to give support to the theory, and the works may possibly be of very much later date.

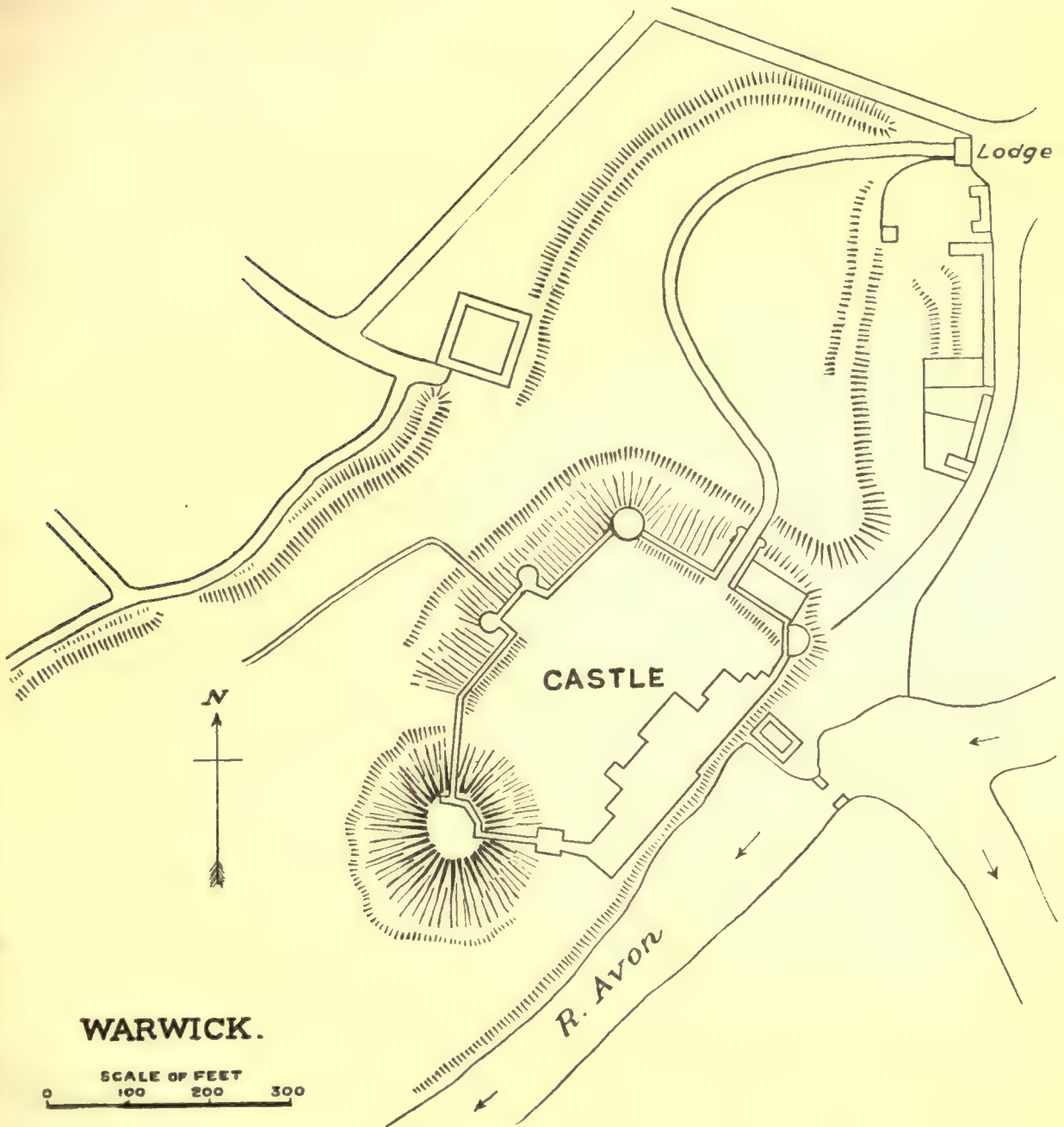
WARWICK.—The magnificent mediæval castle here is built upon ancient earthworks of the moated mount and court type. These original fortifications have probably been more or less modified by the erection of the later defences of masonry, but the great mount itself remains unaltered, and is a very prominent object, and the ditches protecting its courtyard are still distinctly traceable.

The site of this ancient fortress is upon a rocky elevation overhanging the north-west bank of the river Avon. The high grassy mount which formed the 'keep' rises at the south-west of the earthworks, and about 120 feet away from the river; it is conical in shape and, as usual, truncated at the top; it measures about 200 feet in diameter at its base, and about 60 feet at its summit; remnants of the surrounding fosse are still to be seen, more distinctly upon the western side. The walls of the present castle now enclose a portion of the mount, and the

¹ Burgess in *B'ham. and Mid. Inst. Arch. Trans.* (1872), p. 87, and in *Arch. Journ.* vol. xxxiii. (1876), p. 374; Bloxam in *B'ham. and Mid. Inst. Arch. Trans.* (1875), p. 31.

ANCIENT DEFENSIVE EARTHWORKS

northern tower stands upon it ; formerly a great tower, which is said to have resembled Clifford's keep at York, crowned the summit, but it has long been removed. To the north-east of this mount is the large inner courtyard, covering an area of over 2 acres ; instead of being



of the usual crescentic or curved shape, it is oblong in form, with rectangular corners ; in this respect it corresponds with Castle Bromwich and Tamworth ; the walls and towers of the present castle now stand upon its former earthen ramparts, while the ditches beyond them have probably been deepened and enlarged to form the existing moat. To

A HISTORY OF WARWICKSHIRE

the north of this courtyard again, and between it and the embattled entrance gateway opening from the town, is a second and larger moat, probably enclosing an area of 5 acres ; this outer bailey became 'the vineyard' of mediæval times, lying without the castle walls. Portions of the defensive ramparts still remain, though they have been modified in course of ages by subsequent works.

Beyond the limits of this moated mount and court fortress, still further banks of earth are to be seen towards the north-west ; they seem to have had no connection with the original works, but were in all probability raised by the assailants of the castle during the Civil War in the seventeenth century.

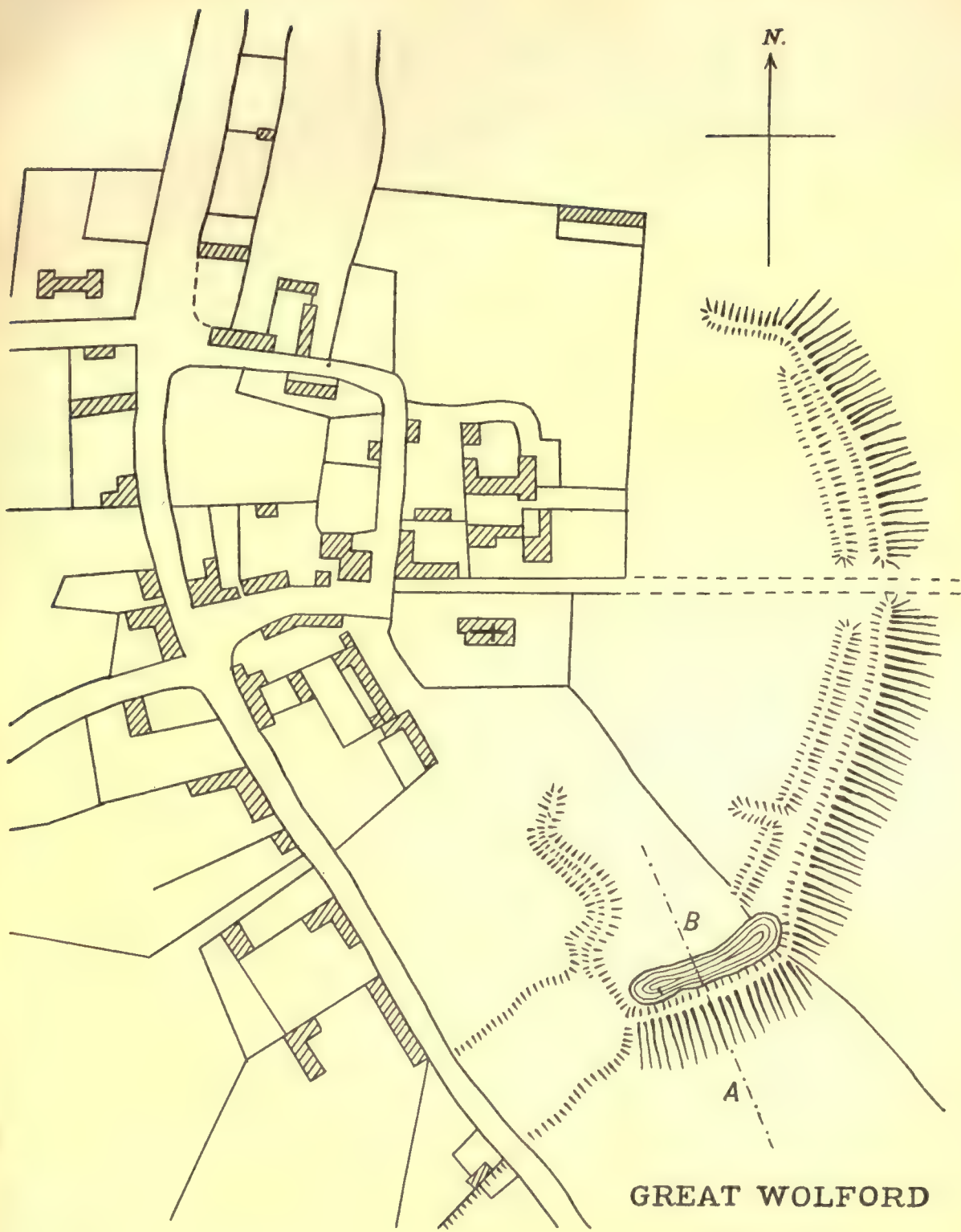
Various writers have called the whole of the earthworks here either ancient British or Roman, but without sufficient reason in either case.¹ The rectangular form of the inner courtyard has suggested the idea that it might originally have been a Roman camp, utilized by the makers of the mount and court fortress, but excavation could alone throw light upon the matter. The name by which the great conical mound has long been known locally is 'Ethelflæda's Dungeon' or 'Castle' ; according to tradition it is the actual fort which the Anglo-Saxon Chronicle records was erected by the famous 'Lady of the Mercians' at Warwick 'late in the harvest' of the year 914. But whether this is so is difficult, in the present state of knowledge of the subject, to determine ; and some authorities would date the construction of the existing mount and court fortress at least some years after the Norman Conquest.

GREAT WOLFORD (4 miles south of Shipston-on-Stour).—This elevated village, well placed on a triangle of land above the junction of two little streams, was, like Wappenbury, formerly defended by entrenchments running all round it ; they probably enclosed an area of about 30 acres. Even within the memory of people still living ramparts well nigh encircled the village. But they have now been practically levelled, except upon one side, that to the east and south-east. Here too they have been considerably mutilated in places. The extant defences show formidable double ramparts with intervening fosse, all placed upon the top of a steep decline which slopes down to the valley of the Nethercote Brook ; they are perhaps best preserved at the south-east corner, where water still lies in a ditch which is 15 feet in width. The outer vallum at this point is 25 feet high above the water, and the inner bank only 20 feet high, the enclosed village being on a level with the top of it ; an inner vallum in all probability once existed here, which has apparently at some time or other been demolished for agricultural purposes.²

A road running from south-east to north through the village was formerly known as the Ridgeway, and in old deeds a meadow near it on

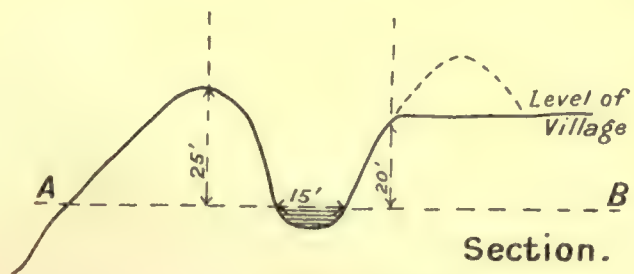
¹ Dugdale's *Warw.* pp. 260, 308 ; Clark, *Mil. Archit.* vol. i. pp. 20, 80 ; Burgess in *Brit. Arch. Assoc. Journ.* (1873), pp. 42, 44 ; Turner's *Shak. Land.* pp. 23-5 ; Timmins's *Warw.* pp. 5, 73, 80, 231.

² O.S. Map 25 in. (1900) ; Rev. J. Harvey Bloom in *litt.*



GREAT WOLFORD

SCALE OF FEET
0 100 200 300



A HISTORY OF WARWICKSHIRE

the north is called the Port meadow. An old trackway runs through a gap in the ramparts directly east from the Ridgeway.

There are, unfortunately, no records of antiquities having been unearthed here when the banks were demolished, to throw light upon their age or origin.

INDEX TO DOMESDAY OF WARWICKSHIRE

PERSONAL NAMES

- Abetot, Urse de, 279, 292, 293, 300*b*, 337*b*
 Abingdon [Abendone], Abbey of, 275, 276, 279, 300*a*, 306*a*, *note* 276.
 Abingdon [Abendone], Abbot of, 276, 288, 306*a*, 325*a*
 Achi, 308*a*
 Adeliz, Adeliza, wife of Hugh de Grentmesnil, 300, 343*a*
 Ælfgar [Algar], Earl of Mercia, 272, 273, 276, 288, 310*a*, 323*a*, 338*a*, 338*b*, *notes* 281, 324*a*
 Ælfifu [Alveva], wife of Geoffrey de la Guerche [de Wirce], 275
 Ælfric [Alvric], 288, 328*a*
 Ælfstan, 274, 338*a*
 Ælfwine [Alwin], Sheriff of Warwickshire, 278, 283, 288, 296, 305*a*, 308*b*, 318*b*, 320*a*, 321*b*, 324*b*, 331*b*, *note* 278
 Æthelric [Alric] son of Meriet, 279, 331*b*
 Æthelwig, Abbot of Evesham. See Evesham
 Aileva, 330*b*
 Ailmar, 288, 320*a*, 331*a*, 331*b*
 Ailmund, 307*b*, 319*a*
 Ailred, 317*a*
 Ailric, 321*b*, 329*a*, 330*a*, 331*a*, 331*b*
 Albengi [Albingi], Nigel de, 28*c*, 300*b*, 327*b*, 340*a*, 340*b*, *note* 340*b*
 Albert of Lotharingia, the clerk, 281, 301*b*
 Albini. See Albengi
 Alde, 322*b*
 Aldgid, Ealdgyth, wife of Grifin of North Wales, 288, 304*b*
 Alfed a free man, 312*b*
 Algar, Earl. See Ælfgar
 Algar, 324*b*
 Aliet, 315*b*
 Almar, 319*a*, 320*b*, 324*a*, 324*b*
 Alnod, 319*a*, 325*a*
 Alric, 310*b*
 Alric a free man, 309*b*
 Alric. See also Æthelric
 Alsi, 308*b*, 315*b*
 Alsi a thegn of the king, 342*b*
 Alspath, Gerard de, *note* 304*a*
 Aluric. See Alvric
 Alvred, 339*b*
 Alvric, 317*a*, 318*a*, 318*b*, 324*b*, 329*a*, 340*a*
 Alvric a free man, 303*b*
 Alvric a thegn of the king, 342*b*
 Alvric. See also Ælfric
 Alward, 318*b*, 337*b*
 Alward a free man, 319*a*
 Alwi, 287, 303*a*, 329*b*, 332*b*, 333*a*
 Alwin, 304*a*, 313*b*, 318*a*, 322*a*, 323*a*, 324*a*, 324*b*, 329*b*, 331*b*, *notes* 311*b*, 312*a*
 Alwin brother of Lewin, 342*b*
 Alwin father of Turchil of Warwick. See Ælfwine
 Alwold a free man, 313*a*
 Angers, St. Nicholas of, *note* 336*a*
 Angers, monks of, 275, 336*a*
 Ansegis, Anseis, 337*a*, 343*b*, and *note*
 Ansgar [Asgar] the staller, 280, 335*b*
 Ansgot the priest, 286, 336*b*
 Archil a man of Turchil, 323*a*
 Arden, Turchil of. See Turchil of Warwick
 Ardene, Henry de, *note* 277
 Ardene, Hugh de, *note* 277
 Arnul, 319*a*
 Arnulf, 313*b*
 Aschi, 332*b*
 Aschil, 318*b*
 Asgar. See Ansgar
 Aubrey [Albericus], Earl, 273, 276, 296, 299, 300*a*, 305*a*, 308*b*, 309*a*, 309*b*
 Auegrin, 328*b*
 Azor, 316*b*, 339*b*
 Azor a free man, 310*b*
 Azur, 340*a*
 Bailleul, Rainald de, 279, 307*b*, 308*a*
 Baldwin [Baldeuin] son of Herlwin, 275, 317*a*, 325*b*, 326*a*, 326*b*, 327*a*
 Barn, Siward, Seward [Seiard, Seubar], 282, 283, 327*a*, *notes* 282, 283
 Bayeux, Odo, Bishop of, 274, 276, 279, 287, 288, 300*a*, 303*b*, 304*a*, 327*b*, *notes* 318*a*, 327*b*, 328*b*
 Beauchamp, Thomas de. See Warwick, Earl of
 Beaumont, Roger de, minister of William the Conqueror, 277
 —, Henry, son of. See Warwick, Earl of
 —, Robert, son of. See Meulan, Count of
 Bonvaslet, William. See Buenvasleth
 Boscher, 316*b*
 Boui, 312*b*, 317*a*
 Bricstuin, 287, 302*b*. See also Edmar, Lewin
 Brictuin, 325*a*
 Brictric, Brihtric, 284, 320*a*, 329*b*, 337*b*, 339*a*
 Bridlington Priory, *note* 296
 Brihteah, Bishop of Worcester. See Worcester
 Brion, Brien, 279, 329*b*
 Britmar, 317*b*
 Britnod, Brihtnoth, 287, 303*a*, 317*b*
 Britnod a free man, 313*a*
 Bruning of Wigginsshall, 284, 319*b*, 323*b*
 Bruning, 343*b*
 Bruno, 336*b*, *note* 309*a*
 Buenvasleth, William, 299, 300*b*, 335*a*, 335*b*
 Buili, Gilbert de. See Gilbert son of Turol
 Bundi, 314*a*, 341*b*
 Burton [Bertone], Abbey of, 275, 276, 300*a*, 306*b*, *note* 308*b*
 Cantuin, 310*b*, 311*a*
 Celred a free man, 313*b*
 Cerret a man of Turchil, 320*a*
 Chentuin, 314*a*
 Chenward, 337*b*

A HISTORY OF WARWICKSHIRE

- Chester, Peter, Bishop of, 273, 275, 299, 300a, 302a, 335a
 Chester, Hugh, Earl of, 279, 300a, 308b
 Chester, Earldom of, 276
 Chetel, 333a
 Chetelbern, 316b, *note* 319b
 Chetelbert brother of Turchil of Warwick, 278, 288, 307b, 323b, *note* 278
 Christina [Cristina], sister to Edgar Æthling, 281, 289, 299, 300, 340b, 341a, *note* 281
 Cnut. See Gunnild
 Colebran, 342b
 Combe, the monks of, *note* 288
 Constantius. See Hugh
 Corbin, 303b
 Couci ['Coci'], Aubrey de. See Aubrey, Earl
 Coutances, Bishop of, 276, 299, 300a, 304a
 Coventry [Coventreu], Abbey of, 272, 273, 275, 294, 296, 300a, 304a, 304b, 305a, 306a, 308b, *note* 333b
 Coventry [Coventreu], Abbot of, 288, 292, 299, 342b
 Coventry [Coventreu], monks of, *note* 304a
 Derby, Earldom of, 279
 Derman, 311a
 Despensers [Dispensators], Robert brother of Urse d'Abetot, 279, 296, 300b, 331a, 331b, *notes* 319a, 329a, 331b, 343b
 Dicford, Roger de, 279 and *note*
 Doda, Lewin, 338b
 Dodo, 329b
 Dreu [Drogo], 330b, 332b
 Eadgar Ætheling. See Christina
 Eadric, steersman of the Bishop of Worcester's boat, 290
 Eadric 'the Wild' [Eadric], 280, 332a
 Eadwine brother of Earl Leofric, 274
 Eadwine [Edwin, Eduin], Earl, son of Earl Ælfgar, 270, 272, 273, 290, 301a, 301b, 315b, 324a, 324b, 332a, 332b, 341a, *notes* 281, 324a
 Ealdgyth. See Aldgid
 Ealdred [Eldred], Archbishop of York, 287, 302b
 Eddulf, 321a
 Edith [Eddid], 300b, 341b
 Edmar son of Bricstuin, 302b
 Eadric, 308a, 312b, 316a, 334a, 342a. See also Eadric.
 Eduin, 319b, 320b, 321a, 321b, 323b. See also Eadwine, Earl
 Eduin the Sheriff, a free man, 303b, 319a
 Edward the Confessor, 270, 301a, 301b, 305a, *note* 283
 Edwin, Earl. See Eadwine, Earl
 Eileva, 334a
 Eldred. See Ealdred
 Elmund, 308a
 Ermenfrid, 288, 320b, 323a, 323b, 324b. See also Ermenfrith, Hermenfrid
 Ermenfrith [Erm'frid], 342a
 Ernegrin a free man, 304a
 Erneuin and his mother, 334b
 Ernewi, 333a
 Ernui, 331a, 333a, 337b. See also Ernui
 Ernui, 334b
 Ernulf a free man, 304a
 Estan, 317b
 Evesham, Abbey of, 274, 300a, 306b, 307a
 Evesham, Æthelwig, Abbot of, 273, 274, 288, *note* 338a
 Evesham, Walter, Abbot of, 282, 307a
 Ferrers [Fereses, Fereires, Ferier(es)], Henry de, 279, 280, 281, 282, 283, 299, 300a, 327a, 327b, *notes* 282, 340b
 Fulbric, 337a
 Fulk, 315a, 317b
 Gamelin, Odo Fitz, *note* 280
 Gand, Gant, Gilbert de, 299, 300b, 337a, 344b, *note* 295
 Geoffrey, 333b
 Gerin, 300b, 337b, and *note*
 Gerold, 303b, *note* 318a
 Gida, 311a
 Gilbert, 314b, 316a, 316b, 317a, 321b, 322a, 338b, *note* 311b
 Gilbert (Buili) son of Turol, 299, 300b, 337b, *note* 299
 Gloucester, St. Peter's Abbey, *note* 280
 Godeva, Godiva, Countess, widow of Earl Leofric, 273, 276, 300a, 309b, 310a, 341a
 Godeva, 322b
 Godmund, 332a
 Godric 315b, 318b, 322b, 335b
 Godric a free man, 313b
 Goduin a thegn, 343a
 Godwin, 328a
 Godwine [Goduin], 284, 321b, 322b
 Goslin, 321a
 Grentmesnil [Grentemaisnil], Hugh de, 273, 275, 279, 284, 289, 293, 299, 300a, 325b, 326a, 326b, 327a, *note* 289
 Grim, 329a, 337b
 Grimulf, 330a
 Grinchet, 325b
 Gudmund brother of Turchil of Warwick, 278, 318b, and *notes*
 Guerche, Geoffrey de la. See Wirce
 Gunnild, Cnut's daughter, 275
 Hadulf, 284, 323b
 Halebold, R., 288, 324a
 Harding, 321b
 Harding a free man, 308b, 309a, 309b
 Harold son of Earl Ralf, 280, 299, 300b, 339a, 339b, and *notes*
 Hasculf Musard. See Musard
 Henry I, 270, 279, 295, *notes* 270, 279
 Hereward, 278, 284, 314a, 315b, 316a, 321b, *notes* 278, 283
 Herlwin, Hearlewinus [Hearleuin], 275, 314b
 Hermenfrid, 320b. See also Ermenfrid
 Hervey, 279, 330b
 Hubert, 326a
 Hugh, 317b, 330a, 335a, 338b
 Hugh, King Edward's chamberlain, 279, 308b
 Hugh son of Constantius, 327a
 Hugh Fitz Richard, *note* 340b
 Hugh, Earl of Chester. See Chester, Earl of
 Humfrey, 339b
 Ingenulf, 313b, 314a
 Ivry, Ivry [Iveri, Juri], Roger de, 279, 299, 300a, 327b, and *note*
 Iwein, 279, 329b
 Johais, 333b
 Juhell, 333a
 Juri, Roger de. See Ivry
 Kenilworth [Chinewrde] Priory, 279, 281
 Leicester, Earldom of, 279
 Leofric [Leuric], Earl, 272, 273, 276, 287, 303a, 306b, 308a, *note* 304b
 Leofric [Leuric], widow of. See Godeva, Countess
 Leofric [Leuric], three men of, 335a
 Leofwine. See Lewin
 Leueget a free man, 312b
 Leuenot, 314a
 Leuenot a free man, 313b, 314a
 Leuiet, 284, 322b, 333b
 Leuing, 331 and *note*
 Leuric, 316b, 329b, 334a, 340a, 340b
 Levenot, 344a. See also Leuenot
 Leveve, or Luith the nun (*monialis*), 278, 289, 299, 300, 323a, 341a, *note* 279
 Lewin, 303a, 304a, 310b, 313b, 314a, 314b, 316b
 Lewin a free man, 303b, 310a

INDEX TO DOMESDAY

- Lewin, Leofwine of Newnham (?), 280, 284, 336a, 337a, *notes* 280, 337a
- Lewin, Leofwine of Newnham (?), mother of, 339a
- Lewin, Leofwine, brother of Alwin the Sheriff, a thegn, 287, 296, 342b, 343a, and *note*
- Lewin son of Bricstuin, 302b
- Lewin Doda. See Doda
- Lichfield, Church of St. Chad at, *note* 302a
- Limesi, Ralf de, 289, 290, 299, 300b, 332a, *notes* 281, 340b
- Lincoln, Bishop of, 279
- Lodric, 338b
- Loges, Hugh de, 281, *note* 342a
- Ludichel, 279, 286, 330b
- Malmesbury [Malmesberie], Abbey of, 275, 276, 300a, 306b, *note* 317a
- Malmesbury [Malmesberie], Abbot of, 299
- Mandeville [Magneville, Manneville], Geoffrey de, 280, 299, 300b, 335b, *note* 278, 311b
- Manegot, 327a
- Margaret, Queen of Scots. See Christina
- Matilda [Mathilde], Queen, 287, 303a, *note* 287
- Merewine [Mereuin], 284, 314b
- Meulan [de Mellend], Robert the Count of, 272, 275, 276, 277, 284, 286, 288, 293, 295, 299, 300, 300a, 310a, 310b, 311a, 312a, 312b, 313a, 313b, 314a, 314b, 315a, 315b, 316a, 316b, 317a, 317b, 318a, 324a, 344a, *notes* 278, 280, 303b, 309a, 311b, 321b
- Mervin, 339a
- Montgomery, Roger de. See Shrewsbury, Earl of
- Mortemer, Ralf de, 280, 300b, 332a
- Musard, Hascoit [Hasculf], a Breton, 280, 300b, 339b
- Nicholas [Nicolas] the crossbowman (*Balistarius*), 280, 293, 299, 300b, 340a, *note* 280
- Nicholas [Nicolas], 276, 310a
- Nigel de Albengi. See Albengi de
- Odard, 317b
- Odo, 330b
- Odo, Bishop of Bayeux. See Bayeux
- Odo Fitz Gamelin, *note* 280
- Oilgi [Olgi, Oily, Oilli, Ouilly], Robert de, Sheriff of Warwickshire, 278, 279, 288, 289, 296, 300a, 301b, 304a, 319b, 320a, 323a, 323b, 325a, 327b, *notes* 319a, 323a, 327b, 343b
- Olwin, 307b. See also Ulwin
- Ordec, 328b
- Ordric, 314b, 321b, 322a, 323a, 324a, 324b, 333a
- Ordric a thegn of the king, 343a
- Ordui, 338a
- Ordwi, 329b
- Osbern son of Richard, 280, 284, 285, 288, 299, 300b, 304b, 338a, 338b, 339a
- Osbern, 326b
- Oseville, Sewale de, 282. See also Saswalo
- Osmund, 333a
- Oslach, 321b
- Ouilly. See Oilgi
- Outi, 308a
- Oxford, burgesses of, 289
- Pallin, 326a, *note* 343b
- Pershore, Abbot of, *note* 287
- Peter, 332a
- Peter, Bishop of Chester. See Chester
- Préaux, St. Peter, Abbey of, 275, 317a
- Rainald. See Bailleul de
- Ralf, 314a, 318a, 322b, 323a, 327a, *note* 303b
- Ralf, Earl (of Hereford), 335a, 339a, 342a, *notes* 335a, 342a
- Ralph, 308a
- Rannulf brother of Walter, Abbot of Evesham, 282, 307a
- Richard, 320b
- Richard the forester or huntsman (*venator*), 281, 283, 292, 299, 300b, 302a, 341b, 342a, 342b, *notes* 281, 342a
- Ricoard, 332b
- Robert, 314a, 315a, 316b, 321a, 323b, 326b, 332b, 337a, 344b, *notes* 321b, 323b, 333b
- Robert a thegn of King William, 343b and *note*
- Robert the huntsman, 328a, 329a, and *note*
- Robert son of Roger de Beaumont. See Meulan, Count of
- Robert, Dispensator. See Dispenser
- Roger, 316a, 317a, 319a, 324a, 326b, 332a, 332b, 333a, 333b, 335a
- Roger de Montgomery. See Shrewsbury, Earl of
- Rotbert. See Robert
- Saied a free man, 311a
- St. Evroul [Ebrulfus], Abbey of, 275, 326b
- St. Evroul [Ebrulfus], monks of, 279, 299
- St. Mary's Church at Warwick. See Warwick
- Salo a free man, 284, 309a, 315a
- Saswalo, Sewaldus, 281, 282, 327b
- Saulf, 333b, 334a
- Saward, 330a
- Sawold, 333b
- Saxi, 314a
- Saxi a free man, 311a, 312b
- Sberne a free man, 303b
- Scroti, 315a
- Scrotin, 314b, 339a
- Seubar, 282. See also Barn
- Sewaldus. See Saswalo
- Sewale de Oseville. See Oseville de
- Sexi, 315a, 315b, 341b
- Sexi a free man, 312b
- Simund the Dane, a knight of Earl Leofric, 330b
- Siward Barn. See Barn
- Siward son of Turchil, 277
- Shrewsbury, Roger de Montgomery, Earl of, 279, 300a, 307a, 307b, 308a, *notes* 307a, 322a
- Sot [Sotus], 336b
- Spott, Wulfric, *note* 308b
- Stafford [Stadford, Statford], Robert de, 279, 284, 286, 289, 299, 300b, 328a, 328b, 329a, 329b, 330a, 330b, 331a, *notes* 278, 293, 309a, 311b, 312a, 318a, 328a
- Stannechetel, 332a
- Standon de, *notes* 279, 329b
- Stephen, 303b, 304a
- Stephen the steersman (Stirman), 270, 280, 299, 300b, 338a
- Stori, a free man, 302a
- Studley, Peter de, 278
- Studley Priory, *note* 325a
- Suain, 325b, 334a, 334b
- Sudeley de, barony of, *notes* 339a, 339b, 342a. See also Ralf, Earl
- Thorney (Northants), Abbey of, 344a
- Thorney (Northants), Abbot of, 344a
- Tochi, 319a
- Toli, 326a, 326b
- Tonna, 302a
- Tonne, 324b
- Tosti, 339a
- Toti, 339a
- Turbern, 327b
- Turbern a free man, 310b, 313a
- Turchil, 283
- Turchil (Thurkill) of Warwick and Arden, 275, 276, 277, 278, 279, 283, 284, 286, 288, 289, 293, 295, 299, 300a, 306a, 318a, 318b, 319a, 319b, 320a, 320b, 321a, 321b, 322a, 322b, 323a,

A HISTORY OF WARWICKSHIRE

- 323*b*, 324*a*, 324*b*, 325*a*, 333*a*, 334*a*, 343*b*, 344*a*, *notes* 274, 277, 278, 283, 309*a*, 311*b*, 312*a*, 343*a*
 Turchil 'batoc,' 332*b*
 Turchil, King Edward's steersman, 290
 Turgot, 343*b*, and *note*
 Turi, 325*a*
 Turstin, 327*a*
- Ufa, Sheriff of Warwickshire, 274
 —, son of, 274
 Ulchetel, 322*a*
 Ulf, 316*b*, 321*a*
 Ulfchetel, 315*b*
 Ulmar, 338*b*
 Ulnod, 321*b*
 Ulsi, 322*a*, 324*a*
 Ulstan, 322*b*. See also Worcester, Bishop of
 Ulviet, 340*a*
 Ulvric, 321*b*, 322*a*, 322*b*, 324*b*, 337*a*
 Ulvrics, two, 320*a*
 Ulward a free man, 311*a*
 Ulwi, 323*b*
 Ulwin, 307*b*, 308*a*, 318*a*, 322*a*, 324*b*, 329*a*, 332*b*, 335*a*, 340*b*, 344*b*. See also Olwin
 Ulwin (Wulfwine), a monk, 276, 306*b*
 Untain, 319*b* and *note*
 Untoni', 325*a*
 Urfer, 279, 330*b*
 Urse, 303*a*, 338*a*. See also Abetot de
- Veci, Robert de, 279, 300*b*, 331*b*
- Wadard, 287, 303*b*, *note* 318*a*
- Waga a thegn, 284, 328*a*, 328*b*, 329*a*, 330*b*, *note* 284
 Waleran, 308*b*
 Waleran, 'venator' of Hants and Wilts, 281
 Wallef (Waltheof), 284, 314*b*, 315*a*, 315*b*
 Walter, 308*a*, 314*a*, 318*a*, 327*a*, 337*b*, 339*a*
 Walter, Abbot of Evesham. See Evesham
 Waltheof. See Wallef
 Warin, 306*a*, 316*a*, 324*b*, 329*b*
 Warwick, burgesses of, 290, 300, 325*b*
 Warwick, Church of St. Mary at, 275, 324*b*
 Warwick, Henry, Earl of, 277
 Warwick, Roger, Earl of, 279
 Warwick, Thomas, Earl of, *note* 313*a*
 Warwick, William, Earl of, 278, *note* 277
 Warwick, Earldom of, *notes* 312*a*, 340*b*
 Wazelin, 327*a*, 327*b*
 Wichig a thegn of the king, 342*b*
 Wiching, 333*b*, 342*a*
 Wigot, 275, 307*a*
 William, 307*b*, 316*a*, 320*a*, 323*a*, 326*b*, 330*a*, 334*a*, 335*b*, 338*b*, 339*a*
 William son of Ansculf (de Picquigny), 280, 284, 295, 300*b*, 332*a*, 332*b*, 344*b*, *note* 309*a*
 William the Conqueror, 272, 273, 276, 281, 283, 287, 288, 290, 291, 296, 300*a*, 301*a*, 301*b*, 302*a*, 303*a*, 303*b*, 307*a*, 308*b*, 309*b*, 310*a*, 318*a*, 320*a*, 323*b*, 325*b*, 327*b*, 328*a*, 331*a*, 331*b*, 332*a*, 332*b*, 334*a*, 335*a*, 335*b*, 337*a*, 337*b*, 338*a*, 339*a*, 339*b*, 340*a*, 340*b*, 341*a*, 341*b*, 342*a*, 342*b*, 343*a*
 William son of Corbucion, 278, 280, 284, 289, 292, 293, 299, 300*b*, 325*a*, 332*b*, 333*a*, 333*b*, 334*a*, 334*b*, *note* 323*b*
 William son of Malger, 344*b*, *note* 309*a*
 Winchcombe [Wincelcumbel], Abbey of, 275, 300*a*, 306*b*
 Wirce, Geoffrey de [Geoffrey de la Guerche], 273, 275, 276, 280, 283, 284, 286, 299, 300*b*, 309*b*, 335*b*, 336*a*, 336*b*, 337*a*, *note* 309*a*
 Wirce, Geoffrey de, wife of. See Ælfgifu
 Wlf, 344*b*
 Wlfstan. See Worcester, Bishop of
 Wlgar, 314*b*
 Wlsi, 323*b*
 Wlstan, 322*b*
 Worcester [Wirecestre], Abbey of, 270, 274, 275, 303*a*, and *note*
 Worcester, Brihteah, Bishop of, 275
 — Wulfstan [Ulstan], Bishop of, 273, 274, 287, 288, 289, 296, 299, 300*a*, 302*b*, 303*a*, 343*a*, *notes* 338*a*, 343*a*,
 Worcester, monks of, 274, 287, *notes* 270, 303*a*
 Worcester, Prior of, 270
 Wulfcytel, 284
 Wulfric, 284
 Wulfwine. See Ulwin

PLACE NAMES

- Abbot's Salford. See Salford
 'Aderestone.' See Atherstone juxta Merevale
 Adlingfleet (Yorks), 283
 Alcester, 286
 'Aldulvestreu.' See Austrey
 Alne, Great [Alne], 306*b*
 'Alnodestone.' See Aylestone
 Alspath [Ailespede], 273, 309*b*, and *note*
 'Altone.' See Hatton (?)
 Alveston [Alveston, Alvestone], 270, 287, 289, 292, 302*b*, and *note*
 Amcotts (Lincs.), 282, 283
 Amington ? [Ermendone], 332*b*
 Ansley [Hanslei], 309*b*
 Ansty [Anestie], 309*b*
 'Apleford.' See Hopsford
 Arden's Grafton. See Grafton
 'Ardreshille.' See Hartshill
- Arlescote ? [Orlavescote, Werlavescote], 270, 275, 277, 314*a*, 317*a*, *notes* 312*a*, 314*a*
 Arrow in Bidford [Arue], 274, 303*b*, and *note*
 Ashow [Asceshot], 323*a*. See also Bericote
 Astley [Estleia], 315*b*, and *note*. See also Souley End
 Aston juxta Birmingham [Estone] 273, 292, 332*a*, and *note*. See also Witton
 Aston Cantlow [Estone], 273, 285, 338*a*, and *note*. See also Newnham
 Atherstone juxta Merevale [Aderestone], 273, 309*b*
 Atherstone on Stour [Edricestone], 290, 292, 303*b*, *note* 328*b*. See also Aylestone
 Austrey [Aldulvestreu], 276, 280, 306*b*, 327*b*, 340*a*, *note* 340*b*
 Avon Dassett. See Dassett
 Axholme, Isle of (Lincs.), 283
 Aylestone in Atherstone-on-Stour [Alnodestone], 340*a*, *notes* 280, 340*a*
 Baddesley Clinton, *note* 320*a*
 Baddesley Ensor ? [Bedeslei], 284, 320*a*, and *note*
 Baginton [Badechitone], 294, 295, 323*a*, *note* 320*a*
 Barby (Northants), 269
 Barcheston [Berricestone, Berri-cestune], 333*b*, 342*b*
 Barcheston [Bedricestone, Bericeston, Berricestone, Berrices-
 tune] Hundred, now part of
 Kington, 293, 294, 313*a*, 317*b*, 329*a*, 329*b*, 330*a*, 333*b*, 337*b*,

INDEX TO DOMESDAY

- 339a, 342b, *notes* 318a, 335b, 337a
 Barford [Bereford, Bereforde], 270, 285, 292, 334a, 338b
 'Barlichway' Hundred, 294, *notes* 302b, 304a, 306a, 307a, 312b, 317b, 318a, 326b, 328b, 330a, 331a, 332a, 338a, 338b. See also Fernecumbe, Pathlow
 Barnacle in Bulkington [Bernhangre], 316a, and *note*
 Barston ? [Bercestone, Bertanestone], 288, 295, 296, 320a, 331b, 343b, *notes* 319b, 343b
 Barton on the Heath [Bertone], 329a
 Bearley [Burlei], 290, 331a, 334b and *note*
 Beausale [Beoshelle], 303b, *notes* 318a, 340b
 'Bedeslei.' See Baddesley Ensor
 'Bedricestone.' See Barcheston
 Bedworth [Bedeword], 273, 292, 315b, and *note*
 'Beninton.' See Binton
 Bentley [Benechellie], 286, 336b
 Bereford.' See Barford
 Bericote in Ashow [Bericote], 324b
 Berkswell [Berchewelle] (Northants), 295, 314a, 343b, 344a
 'Bernhangre.' See Barnacle
 'Berricestone.' See Barcheston
 'Bertanestone.' See Barston
 Bickenhill, Church ? [Bichehelle], 318b, and *note*. See also Kington, Marston Green
 Bickenhill, Middle ? [Bichehelle], 318b, and *note*. See also Kington, Marston Green.
 Bickmarsh [Bichemerse], 274, 341b
 Bidford [Bedeford], 270, 304a. See also Arrow, Broom
 Biggin ? [Holme], 291, 322b, and *note*. See also Newton.
 Billesley [Billeslei], 290, 326b
 Bilton [Beltone, Bentone], 307b, 322a, and *note*
 Binley [Bilnei, Bilveie], 284, 288, 304b, 323b, and *notes*
 Binton [Beninton, Benintone, Benitone], 292, 334a, 337b, 338b
 Birdingbury [Berdingeberie, Derbingerie], 284, 285, 294, 295, 304b, 321a, *note* 304b
 Birmingham [Bermingeham], 332b. See also Aston
 'Biscopesberie.' See Bushbury
 Bishop's Hampton. See Hampton, Bishop's
 Bishop's Itchington. See Itchington, Bishop's
 Bishop's Tachbrook. See Tachbrook
 Bloxham (Oxf.), *note* 303a
 'Bochintone.' See Bulkington
 Bomelau Hundred, now part of Knightlow, 293, 294, 309a, 309b, 315a, 327a, 328a, 331b, 332a, 335b, 341b, *notes* 316a, 337a
 'Bortone.' See Burton Hastings
 Bourton on Dunsmore [Bortone], 270, 314a
 Bradley Hundred (Glouc.), 275
 Brailes [Brailes], 273, 293, 301a
 Bramcote in Bulkington [Bramcote], 284, 309a, 341b, and *note*
 'Brancote,' 329a. See also Bramcote
 Brandon [Brandune], 323b
 Brewood (Staffs). See Chillington
 Bridgenorth (Shrops.), 295, *note* 308b
 Brinklow Leet or Liberty, *note* 294. See also Bomelau
 Broadwas (Worc.), Church at, *note* 292
 Broom in Bidford [Brome], formerly King's Broom and Barnell's Broom, 274, 288, 304a, and *note*
 Brownover [Gaura], 284, 295, 336b, *note* 309a
 Bubbenhall [Bubenhalle], 270, 329a
 Budbrooke [Budebroc], 273, 289, 332a
 Bulkington [Bochintone], 284, 315a, *note* 315b. See also Barnacle, Bramcote
 'Burlei.' See Bearley
 Burmington [Burdintone], 295, 328a
 Burnell's Broom. See Broom
 Burton Dassett. See Dassett
 Burton Hastings [Bortone], 327a
 Bushbury [Biscopesberie] (Staffs.) 295, 332b. See also Essington
 Butler's Marston. See Marston
 Butler
 Cainhoe (Beds), 280, *note* 340b
 Caldecote in Grandborough [Caldecote], 320b, 322a, *note* 320b
 Caldecote juxta Weddington [Caldecote], 302a
 Cannock Chase, 281
 Cawston in Dunchurch [Calvestone], 320b, 321a
 'Celboldestone.' See Edgbaston
 'Celitone.' See Shuttington
 'Cilverdestoche.' See Chilvers Coton
 Cester's Over ? See Over
 Chadshunt [Cedeleshunte], 270, 305b
 Charlecote [Cerlecote], 291, 312a
 'Chenevertone.' See Kinwarton
 Chesterton [Cestedone, Cestretone], 285, 306a, 327b, 342b, *notes* 281, 312a
 Chesterton [Cestedone, Cestretone], Church of, 281
 Chesterton, Little, now Kingston [Cestretun], 276, 277, 288, 325a, *notes* 289, 325a
 Chillington in Brewood (Staffs) [Cillitone], 295, 335a
 Chilvers Coton [Cilverdestoche], 339a
 'Chinesberie.' See Kingsbury
 'Chinewrde.' See Kenilworth
 'Chircheberie.' See Kirby, Monk's
 Church Bickenhill. See Bickenhill
 Church Lawford. See Lawford
 Churchover ? [Wara, Waura, Waure], 295, 309a, 323a, 328a, *note* 309a. See also Cester's Over
 'Cintone.' See Kington
 Claverdon [Claverdone], 292, 312b. See also Kington
 Clifford (Glouc.), *note* 330a
 Clifford, Ruin [Cliforde], 330a, and *note*
 Clifton on Dunsmore [Cliptone], 296, 305a, 308b, *note* 322b
 Clopton [Clotone], 330b
 'Cobintone.' See Cubbington
 'Coctune.' See Coughton
 Colchester (Essex), 272
 Coleshill [Coleshelle], 270, 301b
 Coleshill [Coleshelle] Hundred, now in Hemlingford, 294, 302a, 304a, 306b, 308b, 309b, 313b, 318a, 327a, 327b, 331a, 339a, 340b, 342b, *notes* 302a, 318b, 319a, 319b, 325a, 327b, 333a, 336b, 340b, 343b
 'Colvestan.' See Cuttlesstone
 Combe Fields, *note* 309a
 Compton, Fenny [Contone], 270, 312a, 317a, 324a, *note* 311a
 Compton, Long [Cuntone], 285, 335b, *note* 311a.
 Compton Scorfen [Little Contone], 329b, *notes* 311b, 312a, 329b
 329b Compton Scorpion [Contone], *note* 311a
 Compton Verney, formerly Compton Murdak [Contone], 270, 311a, 324b, *notes* 311a, 312a
 Compton Wyniates [Contone], 329b, *notes* 311a, 312a
 Corley [Cornelie], 343a, and *note*
 Coton End near Warwick [Cotes], 273, 279, 290, 291, 292, 301b
 Coughton [Coctune], 290, 325a, *notes* 291, 307a

A HISTORY OF WARWICKSHIRE

- Coundon [Condelse, Condone], 305a, 333b, and *note*
 Coventry [Coventreu], 286, 294, 310a
 Cromer (Norf.), 283
 Cubbington [Cobintone, Cubintone], 279, 305a, 316b, 327b, *note* 305a
 Curdworth [Credeworde], 318a
 Cuttlestone [Colvestan, Cudulvestan] Hundred (Staffs), 295, 332b, 334b
 Dasset, Avon [Derceto], 270, 310b and *note*
 Dasset (Burton) [Dercetone], 270, 339b, and *note*
 'Derbingerie.' See Birdingbury
 'Dercelai.' See Dosthill in Kingsbury
 Ditchford Frary [Dicford], 329b, *note* 279
 Donnele ? in Hatton [Donnelie], 292, 313a, and *note*
 Dorsington, Little [Dorsitone], 274, 338a, and *note*
 Dosthill ? in Kingsbury [Dercelai], 319b, and *note*
 Drayton, 274
 Droitwich (Worc.) [Wich], 292, 293, 334a, 337b, *note* 292
 Dudley Castle (Worc.), 280
 Dunchurch [Donecerce], 270, 338b. See also Cawston
 Dunsmore. See Bourton, Clifton, Ryton, Stretton
 Eatington, Upper and Lower [Etendone], 270, 281, 282, 285, 324b, 326b, 327b, 343a, *note* 312a
 'Ecleshelle.' See Exhall
 'Edburberie.' See Harbury
 'Edelmitone.' See Ilmington and Tidmington
 Edgbaston [Celboldestone], 332b, and *note*
 'Edricestone.' See Atherstone on Stour and Edstone
 Edstone in Wootton Wawen [Edricestone], 328b, and *note*
 Elmdon [Elmedone], 319a
 Ely, Isle of (Camb.), 290
 'Epeslei.' See Ipsley
 'Eptone.' See Napton
 'Erburberie.' See Harbury
 Erdington [Hardintone], 273, 292, 332a
 'Ermendone.' See Amington
 Essington in Bushbury [Eseningetone] (Staffs), 295, 332b
 'Estleia.' See Astley
 'Estone.' See Aston
 'Etelincote.' See Idlicote
 'Etone.' See Nuneaton
 Evesham (Worc.), 274
 Ewyas Harold Castle (Heref.), 280
 Exhall [Ecleshelle], 334a, and *note*
 Farnborough [Ferneberge], 302a, *note* 339a
 'Feniniwebold.' See Newbold Revel
 Fenny Compton. See Compton
 Ferncumbe Hundred, 293, 294, 303b, 306a, 306b, 312b, 325a, 330a, 328b, 334a, 335a, 337b, 338b, 339b, 340a, 341b, *notes* 303b, 306b, 307a, 317b, 333b, 334a, 340b, 341a. See also 'Barlichway'
 Fexhole Hundred, now part of Kineton, 294, 301a, 305b, 326a, 328b
 Fillongley [Felingelai, Filingelai, Filunger], 292, 295, 304a, 331a, 342b, *note* 304a
 Flecknoe in Wolfhamcote [Flechenho, Flechenoc], 288, 296, 303a, 321b, 342b, 343a, *note* 303a
 Foleshill [Focheshelle], 309b
 Frankton [Franchetone], 307b, 314a, *note* 307b
 Fulbrook [Fulebroc], 312b, and *note*
 Fulready [Fulrei], 324b, *notes* 312a, 343a. See also Eatington
 'Gaura.' See Brownsover
 Gloucester, 272
 Grafton, Arden's ? [Graston], 334a, and *note*
 Grafton, Temple [Grastone], 338b, and *note*. See also Hillborough
 Grandborough [(G)ranberge, Greneberge], 294, 304b, 341b, and *note*. See also Caldecote
 'Grastone.' See Temple Grafton
 Gravesend Hundred (Northants), 344a
 Great Alne. See Alne
 Great Harborough. See Harborough
 Great Wolford. See Wolford
 Grendon [Grendone], 327a
 Hampton in Arden [Hantone], 336b, and *note*
 Hampton, Bishop's [Hantone], 289, 291, 302b, and *note*
 Hampton Lucy. See Hampton, Bishop's
 'Hanslei.' See Ansley
 'Hantone.' See Bishop's Hampton
 Harborough, Great and Little ? [Herdeberge], 341b, 343b, *note* 341b
 Harbury [Edburberie, Erburberie, Erburgeberie], 286, 291, 295, 305b, 310a, 323a, 327a, 335a, *note* 317a
 Hardwick, Prior's, [Herde-
 wicke], 270, 305b, and *note*
 'Hardintone.' See Erdington
 Hartshill [Ardreshille], 309b
 Haseley [Haseleia], 340a
 Haselor [Haseloue], 285, 286, 293, 340a, and *note*. See also Upton
 Hasledon (Glouc.), 279
 Hatton ? [Altone], 340b, *notes* 303b, 340b. See also Beausale, Donnele
 Haxey (Lincs), 283
 Hemlingford Hundred, 294, *notes* 304a, 325b, 332a, 343a. See also Coleshill
 'Herdeberge.' See Harborough
 Hill [Hille], 276, 277, 288, 306a, and *note*
 Hillborough [Hildebureurde, Hildeborde], 292, 337b, 338b, *note* 337b
 Hillmorton [Mortone], 325b, 342a, *notes* 314b, 342a
 Hodnell [Hodenelle, Hodenhelle], 314b, 321b, 333a, *note* 314b
 'Holehale.' See Ullenhall
 'Holme.' See Biggin, Newton
 Holywell (Oxf.), *note* 291
 Honesberie, Onesberie, Hundred, now part of Kineton, 270, 293, 294, 302a, 305b, 306a, 309b, 316b, 324a, 335b, 339b, 342a, *notes* 312a, 324b, 339a
 Honiley, *note* 313a
 Honington [Hunitone], 305b, *note* 301a
 Hopsford [Apleford], 284, 337a, and *note*
 Hunningham [Huningeham], 333a, 333b, and *note*
 'Icentone.' See Itchington, Long
 'Icetone.' See Itchington, Bishop's
 Idlicote [Etelincote], 328b, and *note*
 'Illintone.' See Lillington
 Ilmington [Edelmitone, Ilmedone], 295, 313a, 317b, *note* 311b
 Ipsley [Epeslei], 273, 338b
 Ipswich, 272
 Itchington, Bishop's [Icetone], 270, 305b
 Itchington, Long [Icentone], 281, 341a
 Jabbett. See Marston
 Kenilworth [Chinewrde], 270,

INDEX TO DOMESDAY

- 281, 294, 295, 302*a*, *notes* 301*b*, 302*a*
 Kilsby, 269
 Kineton or Kington [Quintone], 270, 291, 301*a*
 Kineton Hundred, 294, *notes* 303*b*, 306*a*, 310*a*, 310*b*, 312*b*, 317*a*, 318*a*, 322*a*, 326*b*, 339*b*, 342*a*
 Kineton Hundred. See also Barcheston, Fexhole, Honesberie and Tremelau
 Kington juxta Claverdon [Cintone], 313*a*, *note* 291
 Kington or Kingsford in Bickenhill and Solihull [Cintone], 333*a*
 King's Broom. See Broom
 Kingsbury [Chinesberie], 309*b*. See also Dosthill
 Kingston. See Chesterton, Little
 Kinwarton [Chenevertone], 282, 307*a*
 Kirby, Monk's [Chircheberie], 269, 275, 335*b*, 336*a*, *note* 309*a*
 Kirby, Monk's [Chircheberie], Church of St. Mary and St. Denis, 275
 Knightcote in Dasset, *note* 339*b*
 Knightlow Hundred, 294, *notes* 303*a*, 307*b*, 310*b*, 314*a*, 315*a*, 315*b*, 317*a*
 Knightlow Hundred. See also Bomelau, Meretone and Stoneleigh
 Ladbroke [Lodbroc, Lodbroch], 278, 286, 291, 316*a*, 320*b*, 321*a*, 321*b*, 326*b*
 'Lamintone.' See Leamington
 'Langedone.' See Longdon
 Langley [Longelei], 331*a*
 Lapworth [Lapeforde], 275, 326*a*, *note* 287
 Lawford, Church [Leileforde], 270, 307*b*, *note* 336*a*
 Lawford, Little. See Lawford, Long
 Lawford, Long [Lelleford, Lilleford], 270, 323*a*, 336*a*
 Leake (Notts), 283
 Lea-Marston. See Marston
 Leamington-Hastings [Lunnitone], 339*b*
 Leamington Prior's [Laminitone], 307*a*
 Lechlade (Glouc.), 282
 Leicester, 269
 'Leth.' See Marston, Lea-
 Lichfield (Staffs), 273
 Lighthorne [Listecorne], 270, 292, 335*a*
 Lillington [Illintone, Lillintone], 291, 316*a*, 323*b*
 Little Chesterton. See Chesterton
 Little Compton. See Compton
 Little Dorsington. See Dorsington
 Little Harborough. See Harborough
 Little Lawford. See Lawford
 Little Pillerton. See Pillerton
 Priors
 Little Wolford. See Wolford
 'Lodbroc.' See Ladbroke
 Long Compton. See Compton
 Longdon in Solihull [Langedone], 319*a*
 'Longelei.' See Langley
 Long Itchington. See Itchington
 Long Lawford. See Lawford
 Lower Easington. See Easington
 Lower Woodcote. See Woodcote
 Loxley [Lochesham, Locheslei], 274, 303*a*, 317*b*, 327*a*, *notes* 302*b*, 303*a*
 Luddington [Luditone], 274, 317*b*
 'Lunnitone.' See Leamington
 Lyndon, *note* 333*a*
 'Machitone' See Maxstoke
 Malmesbury [Malmesberie], 290
 Mappleborough in Studley [Mepelberge], 333*b*
 Marston Butler (now Butler's Marston) [Mersetone], 270, 325*b*, *notes* 289, 319*a*
 Marston Green in Bickenhill [Merstone], 319*a*
 Marston Hall, *note* 319*b*
 Marston Jabbett [Merstone], 286, 315*b* and *note*
 Marston, Lea- [Merston, Merstone, Leth], 328*a*, 331*a*, 331*b*, *notes* 319*b*, 331*b*
 Marston juxta Wolston ? [Merstone], 291, 323*a*
 Marton ? [Mortone], 314*b*, 315*a*, *notes* 314*b*, 342*a*
 Marton Leet, *note* 294. See also Meretone Hundred
 Maxstoke [Machitone], 319*a*, and *note*
 Mereton [Marton] Hundred, now part of Knightlow, 293, 294, 303*a*, 304*b*, 306*a*, 308*b*, 316*a*, 318*b*, 321*a*, 333*a*, 336*a*, 338*a*, 339*b*, 341*a*, 341*b*, 342*b*, *notes* 305*a*, 307*b*, 314*b*, 320*a*, 320*b*, 325*b*, 333*b*, 341*a*
 Meriden. See Alspath
 Middle Bickenhill. See Bickenhill
 Middleton [Mideltone, Mildentone], 325*b*, 343*a*
 Milcote [Melecote], 274, 338*a*, *note* 274
 Mildentone (Beds), *note* 343*b*
 Milverton [Malvertone], 310*a*
 Minworth [Meneworde], 318*b*
 Miserden (Glouc.), 280
 'Moitone.' See Myton
 Mollington [Mollitone], 270, 295, 339*a*, *note* 280
 Monk's Kirby. See Kirby
 Morcton Morrell [Mortone], 270, 311*a*
 'Morton.' See Hillmorton
 Morton Bagot [Mortone], 330*a*
 'Mortone.' See Norton-Lindsey
 'Muitone.' See Myton
 'Musardere La' Castle (Glouc.), 280
 Myton [Muitone, Moitone], 273, 286, 288, 310*a*, 324*a*, 324*b*, *note* 280
 Nantwich (Ches), 292
 Napton [Eptone, Neptone], 284, 314*a*, 321*a*, 322*a*
 Nether Shuckburgh. See Shuckburgh
 Nether Whitacre. See Whitacre
 Newbold-on-Avon [Newebold], 336*a*
 Newbold Comyn [Niwebold], 270, 276, 305*b*, 317*a*
 Newbold Pacey [Niwebold], 339*b*, *note* 317*a*
 Newbold Revel [Feniniwebold], 336*a*
 Newnham in Aston Cantlow [Neweham], 306*a*
 Newnham Paddox [Niweham], 337*a*
 Newnham Regis, *note* 337*a*
 Newton [Niwetone], 291, 322*b*
 Norton-Lindsey ? [Mortone], 330*b*, and *note*
 Norwich, 272
 Nuneaton ? [Etone], 308*b*, 325*a*
 'Octeselve.' See Oxhill
 Offord in Wootton Waven [Offeworde], 270, 292, 328*b*, 331*a*
 'Onesberie' Hundred. See Honesberie
 'Optone,' 286, 294, 295, 301*b*, and *note*. See also Upton juxta Haselor
 Optonegrave Wapentake (Northants), 344*b*
 'Orlavescote.' See Arlescote
 Oswaldslaw (Worc.), *note* 287
 Over [Wavre] (Northants), 295, 344*b*, *note* 309*a*
 Over, Cester's [Wara], 295, 337*a*, *note* 309*a*
 Over Pillerton. See Pillerton Priors
 Overs, The. See Brownsover, Cester's Over, Churchover
 Oversley [Overslei], 317*b*

A HISTORY OF WARWICKSHIRE

- Over Whitacre. See Whitacre
Oxford, 272
Oxhill, [Octeselve], 326*a*, *note* 301*a*
- Packington [Patitone], 292, 318*b*
Packwood *note* 326*a*
Pathlow Liberty, 294. See also Barlichway and Fernecumbe
Pathlow [Patelau] Hundred, 293, 294, 302*b*, 317*b*, 329*a*, 330*a*, 338*a*. See also Barlichway and Fernecumbe
Pillerton Hersey or Nether Pillerton [Pilardetone], 325*b*, and *note*
Pillerton Priors [Pilardetune, Pilardintone], 275, 279, 285, 290, 299, 308*b*, 326*b*, *note* 308*b*
Plumtree (Glouc.), *note* 280
Preston Bagot [Prestetone], 313*a*, 317*b*, *note* 312*b*
Prior's Hardwick. See Hardwick
Prior's Marston, *note* 305*b*
Prior's Salford. See Salford
Puddletown [Piretone] (Dorset), 273
- 'Quatercote.' See Whatcote
Quatt [Quatone] (Shrops), 295, 308*a*, and *note*
Quinton (Glouc.), *note* 301*a*
'Quintone.' See Kineton or Kington
- Radbourn [Redborne], 320*b*, *note* 314*b*
Radford juxta Coventry, *note* 323*b*
Radford Semele [Redeford], 270, 278, 288, 323*b*, and *note*
Radway [Radweia, Radwei, Rodewei], 291, 306*a*, 309*b*, 342*a*
Ratley [Rotelei], 270, 324*a*
Richard's Castle, 280, 288, *notes* 288, 339*a*
Rinsell [Rincele], 291, 292, 310*b*, and *note*
Romsley [Rameslege] (Shrops), 295, 308*a*, and *note*
Rowington [Rochintone], 326*b*
Rudge [Rigge] (Shrops), 295, 308*a*, and *note*
Rugby [Rocheberie], 269, 321*a*
Ruin Clifford. See Clifford
Ryton on Dunsmore [Rietone], 294, 295, 318*b*
- Salford, Abbor's [Salford], 292, 307*a*
Salford Priors [Salford], 278, 341*a*
Sambourn [Sandburne], 307*a*
Sawbridge [Salwebrige], (Northants), 295, 343*b*, 344*a*
'Scotescote.' See Shustoke
- Seckington [Sechintone, Secintone], 313*b*, 333*a*
Sherborne [Scireburne], 312*b*
Shilton [Scelftone], 315*b*, and *note*
Shipley, near Bridgenorth [Sciplei], (Shrops), 295, 308*a* and *note*
Shrewley [Seruele], 326*a*, *note* 340*b*
Shuckburgh, Nether [Socheberge], 342*a*, and *note*
Shuckburgh, Upper [Socheberge], 314*b*, 322*a*, and *note*
Shustoke [Scotescote], 336*b*
Shuttington [Cetitone], 296, 313*b*
Smercote [Smerecote], 315*b*, and *note*
Smite [Smitham], 309*a*, and *note*
Snitterfield [Snitefeld], 312*b*
Solihull [Ulverlei], 273, 292, 340*b*, 341*a*. See also Kington, Longdon
Souley (End) [Soulege], 292, 315*b*, and *note*
Southam [Sucham], 292, 305*a*, and *note*
Southampton, 280
Sowe [Sowa], 291, 292, 305*a*, 342*a*
Spennall [Spennore], 292, 335*a*
Spilsbury [Spelesberie] (Oxf.), 295, 303*a*
'Stanlei,' 316*a*. See also Stoneleigh
Stoneleigh [Stanlei], 270, 281, 294, 295, 301*a*, 302*a*, *note* 291
Stoneleigh [Stanlei, Stanleie] Hundred, now part of Knightlow, 293, 294, 304*b*, 307*a*, 308*a*, 310*a*, 318*b*, 324*b*, 327*a*, 327*b*, 329*a*, 333*b*, 335*a*, 339*b*, 342*a*, *notes* 305*a*, 306*b*, 316*a*, 317*a*, 323*a*, 324*a*
Stoneleigh Leet, *notes* 294, 302*b*. See also Stoneleigh Hundred
Stow [Stou] (Bucks), 279, *note* 327*b*
Stratford-on-Avon [Stratforde], 274, 292, 302*b*, and *note*
Stretton Baskerville [Stratone], 280, 332*a*
Stretton on Dunsmore [Stratone], 270, 294, 295, 307*b*
Stretton-on-the-Fosse [Stratone], 285, 337*b*, 339*a*, *note* 337*b*
Studley [Stodlei], 280, 293, 334*a*, 335*b*, and *note*. See also Mapleborough
'Sucham.' See Southam
'Surland,' 294, 304*b*, and *note*
Sutton Bonington (Notts), 283
Sutton Coldfield [Sutone], 273, 292, 301*b*
- Tachbrook, Bishop's [Tacesbroc, Taschebroc], 273, 295, 302*a*, 317*a*, and *notes*
- Tachbrook Mallory, *notes* 302*a*, 317*a*
Tamworth [Tameworde], 279, 286, 301*b*
Tanworth, *note* 326*a*
Temple Grafton. See Grafton
Thetford (Norf.), 272
Thurlaston [Torlavestone], 286, 314*b*, 326*a*, and *note*
Tidmington? [Edelmitone], 330*a*, and *note*
Tremelau, Tremeslau Hundred, now part of Kineton, 269, 293, 294, 302*a*, 303*b*, 305*b*, 308*b*, 311*a*, 324*b*, 325*b*, 327*b*, 334*a*, 335*a*, 338*b*, 339*b*, 340*a*, 342*b*
Tysoe [Tiheshoche], 290, 328*b*, *note* 301*a*
- Ufton? [Ulchetone], 305*b*
'Ulfelmescote.' See Wolfhamcote
'Ullavintone.' See Willington
Ullenhall [Holehale], 328*b*
'Ulleries, The,' *note* 340*b*
'Uluestone,' 308*a*, and *note*
'Ulvei.' See Wolvey
'Ulverlei.' See Solihull
Ulverley Green, *note* 340*b*
'Ulvricestone.' See Wolston.
'Ulwarda.' See Wolford
'Ulwarditone.' See Wolverton
Uolwarde. See Wolford
Upper Easington. See Easington
Upper Shuckburgh. See Shuckburgh
Upper Woodcote. See Woodcote
Upton juxta Haselor [Optone], 335*a*, and *note*
- Walcote [Walecote], 284, 291, 322*a*
Walton, now Walton D'Eivile and Walton Mauduit [Waltone], 270, 311*a*, and *note*
Wappenbury [Wapeberie], 270, 336*a*
'Wara.' See Cester's Over, Churchover
Warmington [Warmintone] 310*b*, 316*b*, *notes* 312*a*, 339*a*
Warwick [Warwic(k)], borough of, 269, 272, 289, 290, 291, 299, 300, 301*b*, 302*b*, 325*a*, 325*b*, 327*a*, 328*b*, 329*a*, 332*a*, 334*b*
Warwick [Warwic(k)], Castle, 277, 278
Warwick [Warwic(k)], shrievalty of, 299, 303*a*
Wasperton [Wasmertone], 270, 292, 293, 306*a*
'Waura,' 'Waurc.' See Churchover
Weddington [Watitune], 314*a*. See also Caldecote

INDEX TO DOMESDAY

- Wedgnoek, *note* 310*b*
 Weethley [Wilelei], 307*a*
 'Welei.' See Willey
 Wellesbourne (Hastings) [Waleborne], 270, 301*a*, and *note*
 Wellesbourne Mountford. See Wellesbourne (Hastings)
 'Werlauescote.' See Arlescote
 Weston in Arden [Westone], 315*a*
 Weston under Wetherley [Westone], 291, 292, 316*b*, 323*b*, 333*b*
 Wetherley. See Weston
 Whatcote [(Q)uatercote], 326*b*, and *note*
 Whichford [Wicford] (Northants), 295, 343*b*, 344*b*, *note* 295
 Whitacre [Witacre] (Northants), 295, 343*b*, 344*a*
 Whitacre (Nether)? [Witecore], 319*b*, 331*b*, *note* 319*b*
 Whitacre (Over)? [Witacre], 327*a*, *note* 319*b*
 Whitchurch [Witecerce], 313*b*, 317*b*
 Whitley juxta Henley [Witeleia], 330*b*
 Whitnash [Witenas], 339*b*, *note* 317*a*
 Wibtoft [Wibetot], 269, 315*a*, *note* 315*b*
 'Wich.' See Droitwich
 'Widecote.' See Woodcote
 Widney, *note* 319*a*
 Wigginshall? [Winchicelle], 284, 319*b*
 Wilebroc Hundred (Northants), 344*b*
 'Wilelei.' See Weethley
 Willey [Welei], 315*a*, *note* 315*b*
 Willington [Ullavintone], 329*b*, 337*a*
 Willoughby [Wilebec, Wilebei, Wilebene, Wilebere], 284, 295, 321*b*, 322*a*, 322*b*, 325*b*, *note* 314*b*
 Wilmcote, near Stratford, [Wilme-cote], 338*a*
 Wilnecote, near Tamworth, [Wilmundecote], 286, 313*b*
 'Wimelestone.' See Wormleighton
 'Winchicelle.' See Wigginshall
 'Wirecestre.' See Worcester
 Wishaw [Witscaga], 333*a*
 Witton in Aston [Witone], 332*a*
 Wixford [Witelavesford], 274, 292, 306*b*
 Wolfhamcote? [Ulfelmescote, Wlfesmescot], 284, 291, 318*b*, 320*a*, *note* 303*a*. See also Flecknoe
 Wolford, Great? [Uolwarde, Worwarde], 295, 328*a*, 329*b*, *notes* 318*a*, 328*a*
 Wolford Little? [Ulwarda, Ulware], 303*b*, 318*a*, and *notes*
 Wolston [Ulvricestone], 307*b*, *note* 308*a*
 Wolverton [Ulwarditone], 290, 330*b*, 334*b*, and *note*
 Wolvey [Ulveia], 331*b*
 Woodcote [Widecote], 310*a*, 316*a*
 Woolscott in Grandborough, *note* 320*b*
 Wootton Wawen [Wotone], 284, 292, 329*a*. See also Edstone, Offord
 Worcester [Wirecestre], *note* 292
 Wormleighton [Wimelestone, Wimenestone, Wimerestone], 295, 316*b*, 324*b*, 335*b*, *notes* 311*b*, 312*a*
 Yelvertoft (Northants), 269

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